NORTHEAST DEALER ISSUE
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owa Grasshopper hreat Continues Spite of Rains

State Legislature Being Asked for New $45,000 Spray Fund

AMES, IOWA—Rains in southern wa on July fourth and the two eceding days, gave temporary res- te from the major infestation of asshoppers which had swarmed er the southern third of the state stroying numerous crops.

Dr. H. M. Harris, head of the department of entomology at Iowa State College, in a telephone interview with Croplife on July 5, emphasized that the relief from the grasshoppers should be considered only temporary, and said that an appeal was to be made to the Iowa Legislature on July 9 for $45,000 additional funds to purchase materials and manpower to control the insects.

The rain, though welcome both as relief to drouth conditions and as deterrent to grasshopper depredations, came too late for definite help pastures and oats, but may yet be ery beneficial to corn and beans, roviding that adequate control of he grasshoppers may be obtained.

Dr. Harris said that active spray rograms are presently under way oth by county commissions and the tate highway commission as well as individual farmers. If the needed ppropriation is granted, spraying ctivity will be greatly increased, Dr. arris said.

An emergency fund of $7,000 set

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nsecticide Firm to stablish Arkansas Plant

HELENA, ARK.—The Mitchell Insecticide Co., Fairfax, S.C., will establish a plant here in a building provided by the Helena-West Helena Industrial Corp. The firm has plants in South Carolina and Georgia for insecticide manufacture.

Spraying Started For Control of Medfly in Florida

WASHINGTON — An insecticidal spray to control the Mediterranean fruit fly, has been dispersed by multi-engine aircraft over some 210,000 acres along Florida's southeastern coast, the U.S. Department of Agriculture reports. A second spray application over this area, is now under way in this large-scale program carried on by the Florida State Plant Board and the USDA.

Dr. Byron T. Shaw, Administrator of USDA's Agricultural Research Service, has announced that vegetation in an area running north from Kendall, Fla. (south of Miami), to Lake Park (just above West Palm Beach) would receive additional aerial sprayings of baited malathion insecticide, depending on weather and other factors that may influence the number of days the spray remains effective. Repeated applications are necessary because overlapping generations may allow immature forms

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USDA Field Offices Report Growing Farmer Response To Soil Bank Operation

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — The 1956 soil bank operation appears to be taking hold in the commercial Corn Belt in a big way, according to preliminary information reaching here. Field offices report wide farmer response to the program, particularly among the corn farmers who have complied with acreage allotments under the corn acreage control program of the Farm Act of 1949 as amended.

Word has spread among the corn farmers who have oat acreage. To the extent soil bank participation is available to them they seem to be taking advantage of the obvious net gain from clipping oats to receive in payment soil bank corn certificates. These carry a basic value of 90¢ bu. for corn which might have been grown on this land.

U.S. Department of Agriculture officials say that on much of the oat acreage of the commercial Corn Belt a normal field of corn of 60 bu. to the acre might be anticipated. This would mean that for each acre of oat land clipped the farmer would obtain as high as $54 for his corn certificate.

It is now expected that the certificates will be distributed to cooperators in the soil bank not later than mid-October and possibly earlier. USDA officials say that they feel it may be necessary for their compliance officials to make sure that clipped oat acreage will not be grazed —a condition which would make the farmer ineligible for soil bank certificates.

This soil bank certificate deal on the corn certificate value basis looks like a cash bonanza for the commercial Corn Belt.

Although reports reaching here are preliminary at this time and there has been no assembly of real data from field offices, old hands at USDA familiar with the loan programs and the commercial Corn Belt are now

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Del-Mar-Va Association Hears Talk On Factors of Efficient Fertilization

By GEORGE W. POTTS
Croplife Editorial Staff

OCEAN CITY, MD.—An outline of the basic factors to be taken into consideration in making recommendations for efficient fertilization, was presented by Dr. H. L. Dunton, head of the agronomy department of Virginia Polytechnic Institute, Blacksburg, Va., at the 35th annual convention of the Del-Mar-Va Peninsula Fertilizer Assn. The meeting, attracting approximately 125 fertilizer men in the tri-state area, was held at the George Washington Hotel here June 30.

In an address titled "What Every Fertilizer Salesman Should Know," Dr. Dunton stated that "the day of the college proving and the experiment station telling the farmer what he already knows, is gone." He further indicated that the farmer of today is learning the technical aspects and "you don't fool him anymore." He said that the original problem was to sell the farmer on the idea of the value of fertilizer, followed by the argument of the necessity of using more, but today the average farmer could not be convinced of the logic of increasing fertilizer usage without definite assurance of increased production.

Dr. Dunton referred to the soil as "a manufacturing plant for crop production in agriculture." He said it was comparable with industrial plants except that soil is more complicated and harder to understand, and "the soil is the only manufacturing plant that improves with age if properly managed."

In this analogy he referred to fertilizer as the raw material going into the manufacturing plant and, on this basis, pointed out why some soils cannot use as much fertilizer as certain other soils.

He stressed the importance of knowledge of past treatment of the

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Northwest Fertilizer Meeting Hears Talks on Irrigation, Soil Tests, Plant Food Application

YAKIMA — Methods of increasing the efficiency of fertilizer use provided a theme for papers presented at the seventh annual Regional Fertilizer Conference held at Chinook Hotel here June 28-30. The last day of the sessions was devoted to a fertilizer machinery show.

The meeting, sponsored by the state agricultural institutions of Idaho, Oregon and Washington, and the Soil Improvement Committee of the Pacific Northwest Plant Food Assn., featured a number of technical papers. These included discussions on soil testing, irrigation, plant food application and reports on various experiments conducted during the past seasons.

I. E. Miles, agronomist for Olin Mathieson Chemical Corp., Jackson, Miss., reviewed the development of soil testing over the past 20 years, stating that in the south, the practice has grown from a

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Inside You'll Find

West End, Stauffer Directors Approve Plan for Merger

NEW YORK—West End Chemical Co. and Stauffer Chemical Co. have announced that their boards of directors have met and both boards have approved a plan of merger of West End into Stauffer. It is expected that the formal merger agreement will be adopted by both boards in the near future and will be submitted to the stockholders of both companies for approval.

The plan provides for an exchange of one share of Stauffer common stock for 5.6 shares of West End common stock and one share Stauffer common stock for 60 shares of West End preferred stock, excluding the shares of both classes of West End which are owned by Stauffer.

There are presently issued and outstanding in the hands of the public 2,012,197 shares of West End common and 1,609,341 shares of preferred, of which Stauffer Chemical Co. owns 321,119 shares of common and 596,175 shares of preferred.

West End Chemical Co. produces borax, soda ash, salt cake and lime at its plant at Searles Lake, Cal. For more than 25 years Stauffer Chemical Co. has been the exclusive sales agent for West End's borax. West End will continue to operate as an autonomous division of Stauffer under the designation of "West End Chemical Company Division of Stauffer Chemical Co."

Paul Mayfield

Hercules Promotes Paul Mayfield And G. Fred Hogg

WILMINGTON — Paul Mayfield, a member of the board of directors of Hercules Powder Co., has been elected a vice president and member of the company's executive committee. Additional changes in assignments for executive personnel, announced after the board of directors meeting, were as follows:

J. B. Johnson, vice president, has resigned from the executive committee, but will continue as a vice president and a member of the company's board of directors.

G. Fred Hogg has been named general manager of the Naval Stores Department to succeed Paul Mayfield.

John H. Long has been named general manager of the Paper Makers Chemical Department to succeed R. Rockwell, who retired on June 30.

Mr. Mayfield, newly elected vice president, has been general manager of the Naval Stores Department since 1951 and a member of the board of directors since 1952. He is a past president and a member of the board of the National Agricultural Chemicals Assn.

Mr. Mayfield joined Hercules in 1925, immediately after graduating from Indiana University, as a chemist. Two years later, he was transferred to the company's sales staff, and in 1934 was named manager of Naval Stores sales in Chicago.

He returned to Wilmington in 1936 as assistant director of sales of the Naval Stores Department, and three years later was made director of sales. He was named assistant general manager of the department in 1943, and general manager in 1951.

G. Fred Hogg

G. Fred Hogg, newly appointed general manager of the Naval Stores Department, has been assistant general manager since 1954, and from 1943 to 1952 was the department's director of sales.

Mr. Hogg joined Hercules in 1929, as a chemist. He is a graduate of Wayne University, where he earned a B.Ch.E. degree. He also earned a master's degree from the University of Michigan. He has been associated with the company's Naval Stores Department since 1930, when he was transferred to that department's sales force.

"What's in the Bag," Plant Food Institute Movie, Now Available

WASHINGTON — "What's in the Bag," the newest color and sound motion picture produced by the National Plant Food Institute, shows how plant foods are produced.

The 17-minute film takes the viewer to the sources of raw materials for primary plant foods, nitrogen, phosphate and potash and graphically depicts how they are mined, processed and mixed into complete chemical fertilizers.

Chemical problems involved in fertilizer production are explained through the use of simple demonstrations. U.S. Department of Agriculture scientists dramatically illustrate the chemical and physical reasons why fertilizers cannot be made up of 100% plant food elements.

Films are available, on loan, without cost, except for return transportation and requests should be directed to Film Department, National Plant Food Institute, 1700 K St., N. W., Washington 6, D.C.

G.L.F. to Pay Soil Testing Fees for Farmer Members

ITHACA, N.Y.—More than 120,000 farmers in New York, New Jersey and Pennsylvania will be eligible to have their soil tested without charge, under a plan announced recently by Cooperative G.L.F. Exchange. The farmers, members of the three-state cooperative, may submit soil samples to state college laboratories. Testing fees will be paid by G.L.F. during the year beginning July 1.

Laboratories at Cornell and Penn State provide these tests for farmers at $1 per sample. Rutgers presently makes no charge for the tests, but has announced a $1 fee effective Jan. 1, 1957.

In announcing the program, C. N. Silcox, general manager of G.L.F., said: "One of the most important keys to good agronomic practices on the farm is soil testing. For several years the state colleges in our territory, with their allied extension services, have made soil tests available to farmers at a nominal fee.

"It is G.L.F.'s long-term intention to stimulate and encourage the use of this public service by farmers. This program will be given special emphasis during 1956-57. During this year, the G.L.F. Exchange will pay the soil test fee for those of our members who use the service.

"G.L.F. is not setting up a new system. By offering to pay the testing fee, we are encouraging G.L.F. members to use the existing service. This program is intended to stimulate the continued use of better agronomic practices on the farms of our members."

RICE LEAF MINER

SACRAMENTO — Rice leaf miner infestation has appeared in this year's rice crop in Sutter County but immediate spraying has controlled the outbreak. John Lindt, Sutter County farm adviser, said most ranchers have been spraying with dieldrin or heptachlor as soon as rice sprouts through the water. The county was hit by a heavy leaf miner infestation in 1953.

300 Tour Maryland Research Farm

COLLEGE PARK, MD.—Some 300 farmers, county agents and seed, fertilizer and machinery dealers toured the University of Maryland Plant Research Farm recently to see firsthand, some of the plant research work being conducted. The farm is five miles northwest of the College Park campus.

The all day program, sponsored by the university's Agronomy Department was divided into two parts. In the morning, visitors were shown many of the test plots and field trials now under study. The afternoon program was devoted to machinery demonstrations. At the more than 20 test plots on display, members of the university's Experiment Station staff explained the experiments that are underway at each one.

Among some of the areas on display were tests in cutting of alfalfa at various stages, tests to find better alfalfa varieties and weed and insect control of alfalfa. Also shown was research on small grains. Researchers at the farm are working for small grain varieties that give higher yields and survive well during the winter months.

Other demonstrations included studies on wheat varieties, fertilizer and seeding trials, seedling establishments and weed control. In the latter, much work is being done to find effective control measures for crabgrass. Controlling weeds in corn fields is also under study, as is research to find improved hybrid corn varieties.

Machinery dealers demonstrated the latest in forage harvesters, band seeders, ammonia applicators, liquid fertilizer applicators and other equipment.

Grace Organizes Company-wide Safety Program

NEW YORK—W. R. Grace & Co. which has diversified industrial operations in the U.S., Latin America, Canada, Europe and Australia has inaugurated its first company-wide safety campaign designed to coordinate safety activities previously carried on independently by its divisions and subsidiaries.

Felix E. Larkin, vice president in charge of industrial relations has named A. B. Pettit as director of industrial health and safety. Mr. Pettit was formerly health and safety administrator for the company's Davison Chemical Co. division which has been awarded five National Safety Council awards of honor in the last six years under his guidance.

An industrial safety expert of broad experience, Mr. Pettit has frequently been called upon to participate in the investigation of many serious accidents, fires and explosions, the most widely known of which was the Texas City disaster.

The safety program was launched late in June with a two-day safety conference attended by 41 representatives from all Grace divisions. Under the direction of Mr. Pettit the conference formulated plans for coordinating all safety programs and for the adoption of improved techniques and methods on a company-wide basis.

New Dow Office

NEW ORLEANS—The Dow Chemical Co.'s New Orleans sales office has occupied new quarters at 305 Maritime Bldg., Donald Williams, vice president and director of sales, has announced. The office previously was located at 925 Common St.

The new office services markets for industrial and agricultural chemicals, plastics and magnesium in Louisiana, northwestern Florida, southwestern Alabama, and the southern half of Mississippi. The office is under the supervision of Robert J. Minbiole, manager.

Corn Belt Branch Of ASA Schedules Meeting at Purdue

LAFAYETTE, IND.—The summe meeting of the Corn Belt Branch o the American Society of Agronom will be held at Purdue Universit here Aug. 20-22.

The program will include paper of regional interest on soils and cro improvement and tours, according t W. H. Daniel, Purdue, general chair man.

The morning program Aug. 20 wil include registration, open house an committee meetings. The afternoon will be devoted to crop research pa pers, teaching discussions of cro judging and soil fertility and conser vation tours.

A corn roast and barbecue is o the evening program, followed by re search papers and discussions on soi classification and soil climatology.

Papers and discussions on tillage subsoiling and drainage, along with group tours, are scheduled the morn ing of Aug. 21. The afternoon wil be devoted to research papers o pasture and forage production and soil fertility and tours on tillage, sub soiling and drainage. An all-day tour on soil classification also is scheduled.

The annual banquet and business meeting will be held the evening o Aug. 21.

Wheat Growers in Oregon to Continue Cloud Seeding Project

PORTLAND — Wheat growers in Gilliam and Sherman counties in Oregon will continue for a seventh year a cloud seeding project to increase rainfall despite a controversy over whether the rainmaking efforts have been successful.

George Wilson, Kent, Ore., president of the Tri-County Weather Research, said growers at the recent annual meeting voted to put up $30,000 for a cloud seeding contract with Weather Modification Co., a commercial rain-increasing concern.

Growers also decided to continue for a third year a hail suppressing cloud seeding project during the summer preharvest period.

The wheat farmers' evident faith in rainmaking persisted in the face of assertions by Oregon State College scientists that it hasn't worked in the tri-county area.

Dr. Lyle D. Calvin, OSC Experiment Station statistician, criticized a favorable report on the project by the federal advisory committee on weather control, which was directly opposite to a college report which found "no definite increases in rainfall due to seeding."

Dr. Calvin challenged the methods used in evaluating the results by the committee, which credited cloud seeding with increasing rainfall 18%. He implied that the committee handpicked its storms to show cloud seeding in a favorable light.

This brought a reply from John Battles of the Weather Modification Co., defending the committee's methods as being scientifically sound and approved by leading weather experts.

Firm Changes Name

SAN FRANCISCO — The Southwest Fertilizer & Chemical Co. of California has changed its name, and is now known as the Kerley Chemical Corp. The firm is located in Imperial, Cal.

DEPARTMENT REORGANIZATION

CARBONDALE, ILL.—The board of trustees of Southern Illinois University has approved a reorganization under which the university's School of Agriculture eventually will have three departments. They will be animal industry, general agriculture and plant industry.

Group Sees Results of Top Grassland Management Methods on Virginia Tour

ROANOKE, VA.—Various applications of grassland farming to meet individual needs were provided in a tour to four Virginia farms following the two-day program of the Joint Committee on Grassland Farming with the American Association of Agricultural Engineers, here recently.

Grass silage, hay and zero grazing with rotated pasture gave H. W. Craun, Roanoke, Route 2, an average of 454 lb. of butterfat and 13,000 lb. of milk from his 50-cow purebred Holstein herd, he told the visitors. Mr. Craun used a loose housing program with a new pole type barn built on Virginia Polytechnic Institute plans.

Sheep follow the cattle on pasture, and Mr. Craun said he likes the mixture of orchardgrass ladino clover, alfalfa, with some timothy, red top and red clover added for his new seedlings. However, he has 46 acres of ladino-orchardgrass and 50 acres of bluegrass for his present pasture plus 14 acres of sudan grass and pearl millet for his mid-summer feeding.

Carving a grassland farm from second growth woodland, and then using it for purebred Angus beef production provided plenty of discussion at the Lynn Brae Farm of T. D. Steele, Catawba, Va. Mr. Steele told how he bought the farm six years ago, cleared 20 acres of woodland in 1953-54 and 30 more acres in the past year. He seeded to a mixture of ladino clover and orchardgrass with a little red clover thrown in to augment his established 100 acres of bluegrass-white clover and 60 acres of ladino clover-orchardgrass for his 70 Angus and 30 head of sheep. He hopes to expand the flock size, and is using grass silage.

Mr. Steele has 25 acres in an alfalfa-orchardgrass mixture. He told the group he applied 4 tons of limestone and 1,200 lb. of fertilizer since 1950 to the bluegrass-white clover fields but that these pastures were slow to respond until this season.

E. L. Talbott, who earned the title of "the mechanized farmer" at Cloverdale, Va., has discontinued growing corn, and feeds his 40 cow Guernsey herd almost entirely on green materials. He proudly displayed four and five year-old alfalfa stands still in high production. He explained he produces enough alfalfa to meet silage needed on the first cuttings, meets his hay requirements from the second and third cuttings and then grazes the rest of the season. He used irrigation to boost production on a pasture of bluegrass-white clover and another on orchardgrass-ladino.

In a novel horizontal silo he stores 40 acres with a minimum of labor, and is able to average 370 lb. of butterfat and 7,500 lb. of milk selling as Golden Guernsey milk. He also grows red barley for fall grazing, then lets the crop mature for grain, he said. He topdresses all his pasture with 250 lb. of 2-12-12 and gives the alfalfa stands 1,000 lb. of 0-20-20, borated after the first cutting.

A 50-year-old bluegrass pasture "which we never broke the sod for these newer cultivated pastures" was viewed on the dairy farm of Hollins College near Roanoke. This 159-acre pasture in four fields has been topdressed with 600 lb. of 2-12-12 every other year and 30 to 40 lb. of extra nitrogen each year for the past four years, the manager said. Despite heavy grazing, the white clover remained.

In addition the farm has 55 acres in alfalfa and about the same amount in an orchardgrass-alfalfa stand. Alfalfa fields get 500 lb. of borated 2-12-12 at seeding and topdressed with an equal amount after the second cutting, he said. Holsteins fed from this farm yielded 13,980 lb. of milk and 446 lb. of fat last year.

Prof. John F. Shoulders, extension agronomist at Virginia Polytechnic Institute, arranged the special tour of the grassland farms.

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New Safety Leaflet Released by NAC

WASHINGTON — A safety leaflet including 12 simple suggestions for the safe handling of chemical sprays and dusts has been released by the National Agricultural Chemicals Assn.

The leaflet is part of an expanded NAC-industry safety education program designed to impress upon all growers the need to "read the label" and to follow safe use practices, and to stress that "It's Profitable To Use Sprays and Dusts—Safely."

In announcing the new safety leaflet, L. S. Hitchner, executive secretary of NAC, re-emphasized a recent statement, made for radio broadcast by Dr. David E. Price, assistant surgeon general, U.S. Public Health Service: "Pesticides are a great boon to mankind. We use them in and around our homes; they are used on farms; in industry; and they are used in many public health programs to prevent the spread of disease . . . You yourself can use pesticides with complete safety—if you follow the directions that come with them."

Copies of the safety leaflet will be made available to NAC members for distribution to farmers and farm groups.

Willis A. King Named New Chairman of Grassland Group

ROANOKE, VA.—Dr. Willis A. King, head of the dairy department at Clemson Agricultural College, Clemson, S.C., was named as new chairman of the Joint Committee on Grassland Farming at a brief business session following the 2-day joint sessions with the American Society of Agricultural Engineers here. He succeeds Dr. Howard B. Sprague, head of Penn State's agronomy staff who held the post for 3 years.

Dr. King had served as associate chairman of the national group comprising representatives of over 20 professional, technical, educational and industrial organizations having interests in grassland farming production, preservation or utilization of forage crops. As a teacher and research worker, Dr. King has been active in extending uses of grassland in the South and its utilization as animal feeds. Dr. King served as president of the southern district of the American Dairy Science Assn. last year.

Plans for the annual winter meeting of the executive committee revealed that a symposium on grassland farming is scheduled for the American Association for the Advancement of Science meetings in New York in December. The committee voted to hold its annual business meeting at the AAAS sessions, where Dr. Sprague heads the agricultural section.

Next year's grassland meeting is booked for September, 1957, at Stanford University, California. The invitation to join with the American Association of Phytopathology, American Society of Plant Physiologists and the Certified Alfalfa Seed Council was accepted and the chairman-elect, Dr. King, was authorized to prepare the program.

Richard R. Benson Named to AACCO Post

NEW YORK—The American Agricultural Chemical Co. has announced the appointment of Richard R. Benson as assistant manager of the Cleveland sales office, effective July 1.

Dow Chemical Announces Aid-to-Education Program

MIDLAND, MICH.—Gifts to education institutions by the Dow Chemical Co. will total $320,000 in the school year beginning next fall, it was announced June 27 by Dr. Leland I. Doan, company president.

Dow's 1956-57 "aid-to-education" program will include 62 fellowships and 27 scholarships at 46 institutions, he said. The cash amount represents a 9% increase over the company's current program.

The new program adds 11 fellowships and two scholarships to the present Dow schedule of grants to education, Dr. Doan said.

The program has two major phases, he explained. One authorizes $154,600 in grants to 46 institutions for the establishment of graduate fellowships and undergraduate scholarships and to two educational foundations for assistance to deserving students.

The other phase covers the allocation of $153,000 to 20 institutions, most of it earmarked for use in expansion and operating programs. Major recipients are Case Institute of Technology of Cleveland, where the company's founder, Dr. Herbert H. Dow, was educated, and the Michigan College Foundation, comprised of 14 liberal arts colleges.

After analyzing the problems and needs of the 20 institutions concerned, the company concluded that the gifts should be made "with no strings attached," Dr. Doan said, allowing the school authorities to specify themselves how the money should be used.

Over and beyond this grant-in-aid program, the company expects to make $160,000 available to colleges and universities for specific research projects expected to be beneficial to the Dow company in the chemical field, Dr. Doan said.

Western Agricultural Chemicals Assn. To Meet Oct. 9

SAN JOSE, CAL.—The fall meeting of the Western Agricultural Chemicals Assn. will be held in the Villa Hotel in San Mateo, Cal., Oct. 9, C. O. Barnard, executive secretary of the association, has announced. The morning session will be devoted to business meetings.

Speakers after luncheon will be Harvey O. Banks, director, Water Resources Board, State of California; Allen F. Mather, executive secretary, the Agricultural Council of California and H. C. Moore, president, Agricultural Aircraft Association, Inc., of California.

Middle West Soil Improvement Committee Plans Annual Meeting

CHICAGO—The annual meeting of the Middle West Soil Improvement Committee will be held Oct. 25, at the Sherman Hotel in Chicago.

President W. M. Newman, Price Chemical Co., Louisville, will open the meeting at 9:30 a.m.

The program will include reviews of the committee's 1956 educational work via farm magazines, newspapers, radio and TV stations.

Also on the agenda will be reports on new MWSIC color film strips, educational folders, work with vocational agriculture teachers and state-by-state summaries on MWSIC-supported college research.

Members will consider reports on membership, new projects, and the 1955-56 budget.

INSECT, PLANT DISEASE NOTES

Serious Infestation of Grasshoppers Reported

AMES, IOWA — Grasshoppers are serious in crops, orchards, yards and gardens in the southern ⅔ of Iowa now. Many farmers are spraying in this area (June 30). The Iowa Department of Agriculture is making dieldrin available to the Iowa Highway Commission and to counties for hopper control on roadsides in the south 3 tiers of counties.

There is a great need for a coordinated publicity and educational program in these areas to encourage farmers to treat their fields when roadsides are sprayed. If roadsides don't have hopper populations to justify treatment, destructive populations in fields should be treated anyway.

First brood moth flight of European corn borers is over in south and central Iowa. Larvae range from newly hatched to full grown at the Ankeny Corn Borer Laboratory. Two farmers of the 32 involved in the long time Boone county corn borer study had leaf feeding and egg masses to justify treatment. They are well pleased with results.—Harold Gunderson.

Spotted Alfalfa Aphid Shows Up in Colorado

FORT COLLINS, COLO.—The spotted alfalfa aphid has made its appearance in Colorado for the first time this year, according to Dr. L. B. Daniels, chairman of the Colorado Insect Detection Committee and chief entomologist for the Agricultural Experiment Station. Moderate to heavy infestations have been reported in Prowers county while scattered light infestations have been seen in Bent and Otero counties, he said.

In most of the state's alfalfa- and pea-growing areas, heavy populations of pea aphid have been reported.

Heavy infestations of grasshoppers have hit Douglas and Boulder counties, and control operations have already begun in Las Animas and Bent counties.

Larval infestations of the sugar beet webworm are building up on sugar beets, peas and alfalfa; collections also have been made on onions. Insecticides are being applied, both by ground and aerial equipment in Larimer, Weld and Boulder counties.

Larimer county also reported the first collections of the aster leaf hopper — transmitting agent of the virus disease called aster yellows. Principal crops it affects are carrots, celery and potatoes.

Mosquito control is occupying the attention of several towns in Rio Grande, Alamosa and Conejos counties, Dr. Daniels said. Principal agents being used are DDT and BHC. Extremely high mosquito populations also have been reported from Grand, Jackson and Routt counties and a number of communities there are developing control plans.

The alfalfa seed-producing areas of Crowley county report Lygus bug populations of as high as 200 per 100 sweeps.

In Alamosa and Rio Grande counties, heavy damage to cabbage is reported due to flea beetles. The diamond black moth also is damaging cabbage in Alamosa county.

Heavy populations of corn leaf aphid and English grain aphid have been reported on barley in Mesa county, but some action from the predatory and parasitic enemies of aphid is developing. Montezuma county reports some damage from pale western cutworm.

In Larimer county, adults of the Black Hills beetle are beginning to cut their way out, and may be emerging soon. This is exceptionally early; they usually emerge in the latter part of July.

Leaf Tier Threatens Oregon Wheat Area

PORTLAND, ORE.—An unusually heavy infestation of the omniverous leaf tier in the Willamette valley this year has stirred considerable excitement in Washington county, where predictions have been made that the entire winter wheat crop in the area may be damaged.

This was discounted last week (June 30) by Wilbur W. Burkhart, county agent, who said the damage is not so serious as some reports had indicated. He said some yield reduction will result, but not to a serious extent.

Efforts Made to Stop Grasshoppers in Utah

OGDEN, UTAH—A horde of millions of half-grown grasshoppers swept through the North Ogden area recently and have been eating everything green in their path. Crops, gardens, trees, vines and grass have been completely denuded in the space of just a few hours.

The Thomas Taylor farm, which was in the direct path of the advancing insects, was stripped of all vegetation. Currant bushes were left bare and stemmy, and corn stalks were completely ruined.

At last reports the hoppers were moving south and into a more agricultural area. People in that section depend upon their crops for a livelihood, and have been besieging authorities with calls to start immediate widespread spraying.

Melvin S. Burningham, county agricultural agent, said quick controls must be started or the damage will multiply several times over. Some spraying and dusting have been done, and additional equipment was being brought to the scene at the end of June.

Corn Borer Activity Noted in Illinois

URBANA, ILL.— In South and South-Central Illinois (South of Highway 36) corn borer egg laying and hatch are complete, and optimum time for applying insecticides is rapidly drawing to a close.

In Central Illinois, occasional moths may still deposit a few eggs this week, (July 2) but for practical purposes egg laying is complete. The more advanced fields should already have been treated, and treatment of practically all fields should end this week.

In North-Central Illinois, some moths can still be observed. Although egg laying is declining rapidly, it will continue for several more days. In the western part of this area, many fields reached a tassel ratio of 50 last week and should have been treated. All treatments may very well be finished this week. In the eastern part, a number of fields reached treatment stage late last week, and most treating should be completed by the end of this week. However, occasional fields may still be treated the first few days of the week of July 9.

In Northern Illinois, corn borer development is more advanced in the western part of this area than in the eastern, but some eggs will still be deposited during this week. In the extreme eastern part, egg laying will continue for almost two weeks. Treatments should have started over the week end in the most mature fields and can probably be continued for the next 10 days or so on the less advanced fields that require control measures.

In some of the areas that have not received much rain for the past few weeks, chinch bug migrations may soon occur from small grain and grass fields. This is particularly true in the area of Illinois bounded by a line from North Cook county to LaSalle to Peoria to Champaign.

Small grasshoppers can now be found in large numbers in some fencerows, roadsides, and ditch banks in northwestern Illinois.

Earworm moths have been observed in central Illinois. Earworms have also been observed feeding in the whorls of corn plants. Earliest maturing fields of sweet corn may require earworm control sprays. Observe the fresh silks closely during the next few weeks.—H. B. Petty.

Minnesota Anticipates Grasshopper Infestations

ST. PAUL, MINN.—Examination of alfalfa fields, roadsides, and field margins in S.W. Minnesota revealed 'hopper populations averaging 10 to 50 per square yard. Grasshoppers still are quite small and may be difficult to see. Numerous reports of heavy grasshopper infestations are coming in from all over the state. Hatching of grasshoppers is nearly complete in the southern half of the state.

Distributors and dealers in insecticides should be prepared to furnish materials for grasshopper control on short notice as it appears that infestations will be heavy enough in large areas of the state to require control measures.

European corn borer moth emergence is essentially complete in the southern districts of the state and will probably be complete in the West Central, Central, and East Central districts by the week-end of (July 7). Peak moth flight and egg deposition was apparently reached early this week. Egg counts per 100 plants averaged as follows by districts: South Central—16; Southwest —60; West Central—4; Central—3. Some early leaf feeding was observed in the southern districts. It appears that the optimum time for first generation borer control measures will be during the period from July 4-14.

Billbug injury to corn on lowlands along the Minnesota River is quite common. In many fields examined, 10-20% of plants showed damage. Some small plants were cut off 2 to 3 inches above ground.

Armyworm infestation found in rye in Waseca county was controlled by plane with Toxaphene. Other infestation locations not previously reported include Nicollet, Brown and Stevens counties. These infestations were in grasses, oats and rye. Possible infestation of armyworms could occur until about July 10 and growers should be on the alert for crop damage from this insect during this period.

Bean leaf beetle injury to soybeans is reported from Blue Earth county. The potato leafhopper continues on the increase. Adults are numerous on potatoes and alfalfa and nymphs are hatching in increasing numbers. Most nymphs are in 1st instar, but occasional ones are in 2nd and 3rd instars. Some foliage injury on potatoes is beginning to appear.

Cotton Pests Make News In North Carolina Area

RALEIGH, N.C. — Boll weevil infestations increased in many counties this week with most fields showing a rather light infestation, generally speaking. A few fields in most all counties, however, showed high infestations. Mr. McMahan reported 1st generation weevils started emerging on June 22nd from squares collected on June 12th. Mr. Walker, USDA Entomologist in charge of cotton insect work at the Florence, S.C., Pee Dee Experiment Station, reported 200 weevils showing up in the trap plot (⅛ A.) (all weevils collected and removed from the area 3 times each week) during the week ending 22 June. This was almost ⅓ of the total catch to date.

The plot shows roughly only 1/10 of the weevils collected to date compared to 1950 and only ½ of the total for 1955. Overlapping of the broods can be expected in the lower southeast counties while this condition will not be present in the other areas for another 2 to 3 weeks. An increase in numbers from hibernation may still take place in the more northern areas, hence the importance of checking fields.

A few farms in the southeast areas showed large numbers of bollworms. Fields should be checked carefully, for the small worms may first feed in the blossoms or on the squares.

Light infestations of mites as well as localized infested areas have been reported in many counties. It is often difficult to decide to treat or not to treat.

Dutch Elm Disease Hits Trees in Tennessee

KNOXVILLE, TENN.—A recent survey conducted by the Tennessee Department of Agriculture in conjunction with the plant pathology department of the University of Tennessee Agricultural Experiment Station has revealed the widespread occurrence of Dutch elm disease in Knox County.

The Dutch elm fungus, Ceratostomella ulmi Buis., was isolated from 20 of the approximately 125 sick elm trees examined in the area.

Ten other elm trees on the University of Tennessee campus at Knoxville have been found to have Dutch elm disease since it was first found in the area in September, 1955.

Several other elm trees are showing typical wilt symptoms on the Campus and it appears that the disease is becoming serious in the entire Knoxville area. Control measures recommended by the U.S. Department of Agriculture have been in operation on the University Campus since March, 1956.—H. E. Reed and H. L. Bruer.

Many Crops Affected by Pests in Maryland Area

COLLEGE PARK, MD.—Potato leafhoppers have been found in injurious numbers in two places, the infestation is probably general over the state. At the Plant Research Farm, Fairland, and in Dorchester County, 10 to 14 leafhoppers per sweep were found on alfalfa this week (June 29). Growers are advised to spray now or half the time between 1st and 2nd cuttings.

European corn borer damage to wheat is heavy in some Eastern Shore fields. On one Talbot County farm we counted 50% stem infestation, which means considerable breakage with loss of wheat. Some of the wheat stem breakage is due to a sawfly. There is no increase of borer infestations in corn since last week. Some small corn in Dorchester county was infested with the common stalk borer, a white and black larva which attacks corn, tobacco, tomatoes, and many weeds. It is usually found on field borders near trash.

Potatoes in Somerset county have some stalk damage from European corn borer — full grown larvae and pupae were found. Potato leafhopper is present on potatoes and beans. Mexican bean beetles are pupating on the Lower Shore; adult beetles will

emerge in 10 days and second generation eggs should be laid 2 weeks later. Hornworms both northern, and southern (tobacco and tomato species, respectively) were found in light numbers and in varying sizes on tomato in Somerset county.

There has been some feeding by bean leaf beetle but injury is outgrown. Small grasshoppers were found on soybeans on field borders in Wicomico county.

Webworms have begun to appear on Mimosa trees; Japanese beetles are pestering rose growers, and Elm leaf beetles have appeared in Frederick and Prince Georges counties. These insects not only hurt elm foliage, but in the winter make themselves obnoxious by entering houses.

Hornworm infestation of tobacco is general and growers have started insecticide applications. There has been report of "stalkworm" damage in Prince Georges County, in one case serious enough to necessitate replanting. Wireworm and possibly common stalk borer was involved.—Theo. L. Bissell and Wallace C. Harding, Jr.

Thrips Harming Plants in Arizona Cotton Fields

PHOENIX, ARIZ. — Thrip infestations, with counts as high as 50 to 60 per plant, are knocking off forms and distorting cotton plants in fields. In some cases, growers have hesitated to control this pest because of the appearance of small bollworms. They fear that thrips control will wipe out parasites and predators which normally help keep down the worm population.

John Sears, Graham county agent, reports that Lygus is beginning to build up in several areas, however, the infestations have been spotty to date. He states that most of the crop is squaring, and some blooms are appearing on longstaple cotton.

Extension workers report that Lygus is spotty in the Magma area, and leaf miner flies, but no damage, have also been found. Lygus counts in Maricopa and Stanfield showed 10 and 20 respectively. Thrips counts were 24 at Maricopa. Bollworm moths, but no worms or eggs, were reported in Magma area. In both the Eloy and Casa Grande bollworms are on the increase, but predators are plentiful. Control has been necessary in some cases.

The crop in Maricopa county is still about two weeks ahead of schedule, with very little bolls being shed at this time. In most areas, the crop is blooming and setting firuit very well. Execpt for minor spider mite infestations, most sections of the county remain relatively free of insect pests.

Leaf rollers, a serious problem at this time last year, are still low in populations. Bollworms, Lygus, and aphids are causing some concern in the Chandler and Buckeye districts. Chandler farmers have also reported damaging infestations of black flea hoppers, with counts as high as 32 per 100 sweeps in several fields.—J. N. Roney.

GREEN PASTURE JUDGES

BOSTON — Six judges have been named for the 1956 New England Green Pastures event, which is held annually. Announcement comes from Louis A. Zehner, Boston, general chairman of the New England Green Pastures Committee. Judges are Ralph A. Corbett, extension dairyman, University of Maine, chairman; Paul T. Blood, extension agronomist, University of New Hampshire; Dwight K. Eddy, farm management specialist, University of Vermont; Urban J. Charles, head farmer, Gardner State Hospital; John T. Hannah, county agricultural agent, East Greenwich, R.I., and George Merrill, a farmer and twice a state winner, Plainfield, Conn.

Shovels, Airplanes, DDT Weapons In Massachusetts War on Mosquitoes

BOSTON—An all-out war on mosquitoes is being fought in Massachusetts with shovels, airplanes and DDT. Mosquito control projects are underway in Middlesex, Berkshire, Norfolk, Bristol, Cape Cod, Nantucket, Martha's Vineyard and South Shore counties.

The "war" started back in 1929 on the Cape Cod front and quickly spread to Nantucket and Martha's Vineyard. Later, the fight began in the Berkshires, the South Shore, Norfolk County and eastern Middlesex County. Chief objective of the fight by the state is elimination of breeding places for mosquitoes, which means any standing, stagnant water.

The state's mosquito control force dig drainage ditches on land drawing off the stagnant waters leaving dry land. Airpower is brought in for spraying with aircraft dipping low over expanses of still waters spraying DDT and other chemicals. The sprays blanket the water surface and poison or suffocate the wigglers. Some spraying is also done by crews carrying tanks on their backs.

Need for expanding the mosquito fight became greater than ever in 1945 when GIs and sailors returned from the South Pacific. The Anopheles mosquito in New England could thus pick up the malaria—causing organisms from many of these men who had had malaria, and the need for mosquito control became greater than ever before. It was a public health problem and the state began to redouble its efforts.

When the state first started to fight mosquitoes back in 1929, the Reclamation Board was set up within the Department of Agriculture. In 1930, the Legislature appropriated $1.5 million for drainage of stagnant waters and marshland on the Cape. Most of the money to finance the battle came from the residents of the area where the fight was being carried on. The state assessed towns on the Cape an additional 35¢ per $1,000 valuation.

When mosquito control got under way in the Berkshires it was financed largely by the same means. The rate increase there was 25¢ per $1,000. Throughout the depression, emergency work was done on drainage ditches. With the advent of more widespread projects, bigger organizations were needed and the reclamation board succeeded the old state drainage commission. The board in turn named mosquito commissioners.

There are several of these in each project. The Cape and Islands project have three commissioners. Berkshire County has three and the 22 towns in Norfolk County have five. Eastern Middlesex County has 14, while the South Shore project has 10.

The mosquito commissioners are responsible to the reclamation board. They make out reports to the board on the progress of the battle. They also hire the clerical help, field workers and the superintendent for the project.

Actual operations are directed by the superintendent. Each project is a county affair with the state coordinating the efforts and supplying the money.

The money comes from assessments on the communities and from state appropriations. For financing the reclamation board has been given the power to assess towns where it has mosquito control projects. The legislature passed a bill this year creating a mosquito control project in Bristol County.

Industry Patents

2,752,282. **Agricultural Fungicide.** Patent issued June 26, 1956, to Albert A. Somerville, Carmel, N.Y., assignor to R. T. Vanderbilt Co., Inc., New Yoirk. An agricultural fungicide containing as active fungicidal ingredients about 99% by weight of the ferric salt of a mixture of dimethyl dithiocarbamic acid and 2-mercaptobenzothiazole in the weight ratio of about 90:10 and about 1% by weight of the zinc salt of said mixture, based upon the total weight of the two aforementioned salts.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

The following trademarks appeared in the Official Gazette dated June 26, 1956:

Botrilex, in capital letters, for insecticides, fungicides and preparations for killing weeds and destroying vermin. Filed Nov. 15, 1955, by Bayer Agriculture, Ltd., London, England.

Folosan, in capital letters, for fungus-destroying or preventing preparations for agricultural purposes. Filed Nov. 15, 1955, by Bayer Agriculture, Ltd., London, England.

66, with numerals arranged at slight angle, for nitrogenous and phosphorus - containing fertilizers. Filed June 17, 1955, by Phillips Petroleum Co., Bartlesville, Okla. First use on or about Oct. 11, 1948.

Orange and Black Shield, for nitrogenous and phosphorus-containing fertilizers. Filed June 17, 1955, by Phillips Petroleum Co., Bartlesville, Okla. First use on or about Oct. 11, 1948.

Agronomist's Role in Changing Agricultural Scene Outlined at Northeastern Branch Meeting

BELTSVILLE, MD.—Agronomists not only have the answer to more farm production, but they also hold the answer to cheaper farm production, Dr. Russell Coleman, executive vice president, National Plant Food Institute, said at the northeastern branch meeting of the American Society of Agronomy, held recently at the Plant Industry Station here.

An economic interpretation of agronomic information shows that in certain northeastern states the use of adequate plant food can cut the cost of producing corn from an average of $1 to 81¢ per bu., Dr. Coleman said. The significance of this information is that farmers could realize more net income on the corn which they produce without contributing to the surplus problem.

Dr. Coleman challenged the northeastern agronomists to continue their constructive research program and to interpret their data whenever possible so that its economic values will be appreciated.

Recent results from a number of long-time experiments suggest that adequate amounts of plant food applied in one year restore the productivity of soils depleted through continuous cropping, he reported.

Although it is recognized that this problem requires continued research for a complete answer, the research has raised a number of interesting questions. For example, Dr. Coleman queried, "are yield differences associated with previous management practices largely removed by the application of liberal amounts of plant food? Could agronomists have attached too much significance to soil characteristics associated with good soil fertility? Does this research offer a new approach to soil conservation? Can our nation actually maintain its soil productivity if adequate plant foods are applied even under continuous cropping?" Finding an answer to these questions he said, offers a continuing challenge to the agronomist.

Harold A. Vogel, Food and Agriculture Organization of the United Nations, told the group that the world's agriculture, considering all agricultural commodities, has shown steady progress during the past 10 years, with world output now 25% higher than the prewar average.

Mr. Vogel said there have been increases in wheat, cotton, sugar beets and sugar cane, rubber and coarse grains during the past year. Studies of individual countries, he said, reveals that none of them suffered critical crop failures or excessive losses through animal disease or pests. "We conclude," he continued, "that the production year of 1955-56 for the world as a whole has been relatively successful, with gains in total output exceeding any year since the war."

There has been an unfavorable consumption pattern in some regions, Mr. Vogel said and this is due to several factors. Some areas have shifted to production of non-food commodities and the world agricultural trade has failed to keep pace with the changing pattern of world production. Another unfavorable feature of the current situation is the continued accumulation of stocks of some basic commodities in the major exporting countries.

Fertilizer use the world over has more than doubled since 1942 and the use of farm implements has greatly increased too, Mr. Vogel said. Disease control and plant protection have increased world production and notable progress is being made in nearly all regions in the use of irrigation. Higher levels of farm income and investment have contributed to the expansion and increased efficiency of agriculture that has been accomplished during the past decade.

Despite higher income levels, farm populations have failed to share in the general rise in per capita income and living standards during a period of remarkable world economic advancement, Mr. Vogel said.

In a talk on "History of Agronomy in Maryland," Dr. William B. Kemp, chief of party, British Guiana Project, University of Maryland, said that several barriers had to be overcome before the university's agronomy department could be established. One of these barriers was the passage of the Hatch Act in 1887 which established annual federal support for the state agricultural experiment stations. Then in 1914 the Smith-Lever Act was passed and federal support was established for the agricultural extension service.

Both of these services were associated with the university—then the Maryland Agricultural College—but operated independently of the college. In 1916 when the College of Agronomy was formed there were two experiment station units, one in crops and one in soils; and an extension service unit consisting of one man for both units, Dr. Kemp said.

He said there were only eight staff members at that time. By 1921 there were eleven staff members plus several graduate assistants, now intregrated into a single department. Dr. Kemp was the second department head. He was followed by Dr. A. O. Kuhn, now assistant to Wilson H. Elkins, university president. The present department head is Dr. Robert Wagner.

"It was not until about 1936 that facilities for the various phases could be assembled physically in one place, Dr. Kemp said. During Dr. Kuhn's administration the department was moved to its present location.

The United States is the most consistent winning team that mankind has ever placed on the field of human endeavor, Dr. George R. Seidel, assistant technical adviser of the DuPont public relations department, told the group. More than a hundred countries and civilizations have sought in vain for the key of successful living we possess, he said, adding that we ourselves can lose it if we do not safeguard the principles and ideals upon which our nation has been built.

He went on to explain that the American people's standard of living doesn't just happen—it must be made to happen, and this job is done to an important degree by American industry because men with economic and political freedom have the incentive to carry it through.

"American ingenuity has allowed us to tackle the impossible and often times succeed against 100 to 1 odds" he said. "Men are free to try their hand at anything they think they can do as well as or a little better than the other fellow and they are also ready to assume the responsibility of failure or reap the rewards of success."

In most large companies, the efforts of five groups are required, he said. He named these as research, to create the basic knowledge; engineering, to develop the chemist's idea to the point where it can be produced; manufacturing, to "keep the miracle of our mass production operating at peak capacity"; the salesman, to convey the "constant improvement and change" to the customer; and management, to provide over-all direction, capital, and encouragement.

In a talk on "Research and Education in Agriculture," Dr. Gordon M. Cairns, dean, College of Agriculture, University of Maryland, said that since 1855 education in agriculture has been an important factor in the development of the agricultural potential of this country.

The passage of the Land Grant Act in 1862 which gave federal aid to agricultural colleges, set the stage for an entire new philosophy of education. "The purpose of these new schools was to teach those branches of learning related to agriculture and the mechanic arts," Dean Cairns said. The Land Grant Act and the establishment of the Department of Agriculture in the same year furnished a sound foundation upon which agricultural education and research developed.

The passage of these acts and other acts showed that people recognized the importance of the education of students in agriculture, the development of new information through research and the importance of bringing this new information to the farm people in order that it could be put to use at the earliest possible date.

Dean Cairns commended the progress that has been made in research procedures and the change in emphasis on the part of many of the workers in our land grant colleges and universities.

Agricultural graduates find many employment opportunities the dean said. Of the approximately 15,000 agricultural graduates needed each year there are only about 8,500 receiving their B.S. degree, he said.

Of the many problems ahead of American agriculture, perhaps the foremost is that of adjusting crop production with demand, Dr. Bryon T. Shaw, administrator, Agricultural Research Service, U.S. Department of Agriculture, said at the session.

The current trend is to increase livestock production, which means that we must increase and improve forage for feed, and find ways of making the shift to livestock production profitable, he said.

These tasks pose many challenges. In a number of states, for instance, agronomists now are concerned with developing a variety of alfalfa resistant to the spotted alfalfa aphid which already has caused losses running into millions of dollars. In fact, Dr. Shaw said, "agronomists face a future full of problems . . . for new ones rise to take the place of those that are solved."

It is up to agricultural research scientists to find the answers to these problems. This is true whether they deal with development of disease-resistant crops, or with the broader problem of balancing production with demand. As research needs increase, it is essential to expand research activity.

The storage of trained personnel is critical. Dr. Shaw stressed the need for scientists to help recruit young people for tomorrow's work. Colleges and universities he said, are producing scientists at a rate only half sufficient to meet the needs. Schools, government and industry must mobilize their combined forces to increase scientific manpower, he said.

Dr. Donald A. Williams, administrator, Soil Conservation Service, USDA, presented a talk entitled "Urbanization in the Northeast." A report of his talk appears on page 9 of this issue.

Also appearing on the program was Dr. Sterling Hendricks, chief chemist, Plant Industry Station, USDA.

The three-day meeting concluded with tours of the University of Maryland agronomy research farm and the tobacco experimental farm.

WITH NORTHEAST AGRONOMISTS—Scenes from the recent meeting of the northeastern branch, American Society of Agronomy, are shown above. In the top photo, left to right, are R. R. Robinson, vice president, of the branch; Gordon M. Cairns, dean, College of Agriculture, University of Maryland; William B. Kemp, chief of party, British Guiana Project, University of Maryland; Russell Coleman, executive vice president, National Plant Food Institute; Harold A. Vogel, North American representative of the director general, Food and Agriculture Organization of the United Nations, and Sterling Hendricks, chief chemist, Plant Industry Station, U.S. Department of Agriculture. In the lower photo are Robert E. Wagner, head, agronomy department, University of Maryland; Wilson H. Elkins, president, University of Maryland; Byron T. Shaw, administrator, Agricultural Research Service; Russell Alderfer, president of the branch, and Donald A. Williams, administrator, Soil Conservation Service.

Obtains Charter

NEW ORLEANS — Poultry By-Products, Inc., here has obtained a charter to manufacture fertilizer. Authorized capital stock is 1,000 shares, no par value.

MEETING MEMOS

y 10-13—Extension Fertilizer Dealer - Manufacturer Congresses. Sponsored by University of Georgia College of Agriculture and Georgia Plant Food Educational Society; Northwest District, Georgia Experiment Station, Griffin, July 10; Northeast District, College Experiment Station, Athens, July 11; Southwest and Southeast Districts, Coastal Plain Experiment Station, Tifton, July 13.

y 12—South Carolina Fertilizer Meeting, Tour of Edisto Experiment Station, Blackville, S.C.

y 19-20—Southwestern Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

y 25-27—Northwest Association of Horticulturists, Entomologists and Plant Pathologists Conference, Northwest Washington Experiment Station, Mount Vernon, Wash.

y 26-27—Illinois Fertilizer Conference, University of Illinois, Urbana, Ill.

g. 1—Kentucky Fertilizer Conference, Guignol Theatre, University of Kentucky, Lexington, Ky.

g. 2-3—Nitrogen Field Day and Equipment Demonstration, Ohio State University, Columbus, Ohio.

g. 14-15—Ohio Pesticide Institute, Summer Meeting, Ohio Agricultural Experiment Station, Wooster, Ohio, J. D. Wilson, Wooster, Ohio, Secretary.

g. 17-25—Tenth International Congress of Entomology, McGill University and University of Montreal, Montreal, Canada, J. A. Downes, Science Service Bldg., Carling Ave., Ottawa, Ontario, Canada, Congress Secretary.

g. 20-22 — Corn Belt Branch, American Society of Agronomy, Summer Meeting, Purdue University, Lafayette, Ind.

g. 22-24—Beltwide Cotton Mechanization Conference, Atlanta Biltmore, Atlanta, Ga., sponsored by National Cotton Council.

g. 24—Grassland-Dairy Feld Day in Observance of the 25th Anniversary of Rutgers University Dairy Research Farm, Beemerville, N.J.

g. 28-29—Fertilizer Meeting, Nebraska Agricultural College, Lincoln, Neb. Sponsored by the Agricultural Ammonia Institute.

g. 30—South Carolina Plant Food Educational Society, Clemson House, Clemson, S.C.

pt. 5-7 — National Agricultural Chemicals Assn., 23rd Annual Meeting, Essex and Sussex, Spring Lake, N.J., L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

pt. 9—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose, 28, Cal., Executive Secretary.

pt. 15 — Fifth Annual Chemical Sales Clinic, Hotel Commodore, New York, Sponsored by the Salesmen's Association of the American Chemical Industry.

pt. 15 — Fifth Annual Chemical Sales Clinic, the Salesmen's Association of the American Chemical Industry; Hotel Commodore, New York City; chairman, Preston F. Tinsley, Westvaco Chlor-Alkali Division, Food Machinery and Chemical Corp., 161 East 42nd St., New York 17, N.Y.

pt. 16-17—National Nitrogen Solutions Assn., Annual Meeting and Trade Show, City Auditorium, Sioux City, Iowa; John White, Auburn, Neb., secretary.

pt. 16-18—Fertilizer Industry Round Table, Shoreham Hotel, Washington, D.C. Vincent Sauchelli, Chief Agronomist, Davison Chemical Co., Div. W. R. Grace Co., Baltimore 3, Md., chairman.

Oct. 18-19—Association of American Fertilizer Control Officials, Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Clemson Agricultural College, Clemson, S.C., secretary-treasurer.

Oct. 23-24—Pacific Northwest Garden Supply Trade Show, Shrine Auditorium, Portland, Ore.

Oct. 25—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. La Salle St., Chicago 1, Ill.

Nov. 2—Joint Agronomy-Industry Work Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 7-9—Agricultural Ammonia Institute, Annual Convention, Atlanta Biltmore Hotel, Atlanta, Ga., Jack F. Criswell, Claridge Hotel, Memphis, executive vice president.

Nov. 7-9 — Pacific Northwest Plant Food Assn., Annual Convention, Harrison Hot Springs Hotel, Harrison Hot Springs, British Columbia, Leon S. Jackson, Lewis Bldg., Portland, Ore., secretary.

Nov. 11-13 — California Fertilizer Assn., 33rd annual convention, Del Coronado Hotel, Coronado, Cal.; Sidney H. Bierly, executive secretary, 475 Huntington Drive, San Marino 9, Cal.

Nov. 19-20 — Eastern Branch, Entomological Society of America, Hotel Haddon Hall, Atlantic City, N.J., B. F. Driggers, Rutgers University, New Brunswick, N.J., secretary.

Nov. 28—Oklahoma Fertilizer Dealers Conference, Sponsored by the Oklahoma Plant Food Educational Society, Oklahoma A&M College, Stillwater.

Nov. 29—Oklahoma Soils and Crops Conference, Oklahoma A&M College, Stillwater.

Dec. 27-31—Entomological Society of America, Annual Meeting, Hotel New Yorker, New York City.

Florida Consumption

TALLAHASSEE—Fertilizer use in Florida totaled 214,197 tons during May, according to the Florida Department of Agriculture. This total included 145,900 tons of mixed goods and 68,297 tons of materials.

CROPS SPECIALIST

NEW BRUNSWICK, N.J. — Dr. John L. Gerwig is the new extension farm crops specialist at Rutgers University. He succeeds Donald A. Schallock who will give full time to problems of weed control with the title of extension weed control specialist.

Crops Continue To Make Good Progress in Mid-South

MEMPHIS—The time for the "laying by" of crops has arrived in the Mid-South.

July 4 is the time of the year when farmers in this area usually complete working their crops and await harvest time.

Extension officials in Arkansas, Mississippi, Missouri and Tennessee reported in their weekly crop surveys that most of the farmers were ready to "lay-by" their crops.

Extension officials said the crops of corn, cotton, rice and soybeans are in good to excellent condition and that only the threat of excessive boll weevil infestation is causing them any concern.

Some damage was done to the cotton crop in Tennessee when hail destroyed several hundred acres in Lake County. Some counties of the Mid-South had too much rain, but generally the rain did little damage.

Crop prospects in Mississippi are excellent, according to the Mississippi Agricultural Extension Service.

Cotton insects pose the major threat to high yields. With the first generation of weevils emerging, especially in older cotton, farmers must get on schedule and poison to reduce infestations, A G. Bennett, extension entomologist, pointed out.

"Where heavy infestation of squares is occurring, the poisoning interval should be closed to four to five days between applications," he said.

Cotton generally is clean and fruiting heavily, reported T. M. Waller, extension cotton specialist.

Corn prospects are the best in years. Soybeans look good and pastures are holding up well. Farmers now are side dressing corn, cleaning it and laying it by. Cotton is being cultivated shallow.

Sweet corn, tomatoes, beans and peppers are among the truck crops now in volume market movement from heavy producing areas of the state, Chesley Hines, extension horticulturist, reported. Peaches also are in heavy supply.

Generally adequate rainfall this year continued to result in good reports on Arkansas crops.

The agricultural extension service in Little Rock said the cotton crop was progressing well, with early planted fields squaring heavily and some beginning to show blooms. Most fields were in a good state of cultivation. However, insects were building up in some areas, with the result that farmers were beginning to use insect poisons.

The extension service said rice had made rapid growth and prospects as a whole were quite favorable. Pretty much the same report applied to soybeans.

Early planted corn was tasseling and silking, and much hay was ba during the last two weeks.

Crop prospects look very good southeast Missouri, according to extension service. W. F. James, Pe iscot County agent, said cotton w fruited exceptionally heavy for t early in the year.

SOIL BANK

(Continued from page 1)

estimating that probably as much one million acres of oats will clipped or otherwise removed fr production.

In terms of an average yield 45 bu. of corn per acre from th land, this means new certain i come for the commercial Corn Be this year in the magnitude of million dollars.

That can only be construed as r spending money. It is money that c be profitably parlayed into ev greater income where farmers can persuaded to put part of it in heavier applications of fertilizer m terials as side dressing for the co crop.

Plant food industry officials fe however, that there may only be limited opportunity for side dressi of much of the corn crop in the co mercial Corn Belt this year. But th see a big opportunity for broad pa ticipation of Corn Belt farmers the plant food industry drive for i tensified fall fertilization of cro this year.

To plant food industry official this potential 40-45 million dolla disbursement of federal funds i the Corn Belt will give the farmer the wherewithal to take up fa fertilization this year where the have never used this approved prac tice.

This 40-45 million dollar bank a count at time of fall seeding a preparation cannot help but persua farmers that they may safely p part of this money into this practi and thereby make their share of t federal checks pay off two-fold.

Another item which must car weight with the farmers is the high land values of farms which USD reports as being 4% higher than la year. This clearly means that t land value factor for farms must offset by larger production per ac for all crops, indicating that pla food nutrients and pesticidal chem cals is a necessary component to r duce production costs per unit.

MEDFLY

(Continued from page 1)

of the insect, now in fruit or s to escape the bait spray, which tracts only adult flies, Dr. Shaw sa

Northernmost points at which few flies had been found as of Ju 29 were at Dunedin and two oth locations in Pinellas County, Nor Ruskin and two other locations Hillsborough County, at several calities east of Lake Wales in Po County, and at Melbourne in Breva County. The only areas consider generally infested so far are in t counties of Dade, Broward, Pa Beach and Lee, within which co plete-coverage spraying of affect portions is being carried out.

State and federal inspectors, checking baited traps and cutt fruit in many areas of the state, h located as of June 29 a total of m than 670 Medfly-infested propert in 18 counties. Most of them are the four generally infested counti and the remainder are scatte throughout the remaining 14 co ties affected—Martin, Indian Riv Collier, Hendry, Highlands, Charlot De Soto, Sarasota, Manatee and H dee, besides the northernmost co ties of Pinellas, Hillsborough, P and Brevard.

Special Retail Section

Better Selling

Richer Fields for Dealers

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

Effect of Loss of Farm Land To Urbanization Outlined by Soil Conservation Administrator

COLLEGE PARK, MD.—Every year more than one million acres of cultivable land in the U.S. is going into subdivisions, industrial sites, defense establishments, highways, railways and airports, Dr. Donald A. Williams, administrator, Soil Conservation Service, U.S. Department of Agriculture, said at the northeast branch meeting of the American Society of Agronomy, held here recently. (A story of the meeting appears on page 6 of this issue of Croplife.)

Dr. Williams was citing from a study made last year by SCS.

During the last 15 years, he said, SCS estimates show approximately 17 million acres of the flattest and most fertile farmlands have been converted to non-agricultural use. About three fifths of this land has gone into private development. If this rate of conversion to non-agricultural use continues, Dr. Williams said that by 1970 about 100 million acres of land that once were suitable for cultivation will have been converted to non-agricultural use.

More than 2 million acres of cultivable land from Maine to Virginia has been converted in the last 15 years, he said. In Maryland 10% of the cultivable land has been converted, including 37,000 acres in Montgomery county. Seventeen percent of Baltimore county's suitable farm land has been converted in the last 10 years.

With pouplation headed for the 220 million mark by 1975, Dr. Williams said, "we obviously are going to continue to need more highways, and building space. This poses a pressing problem in the Northeast where about a third of the nation's population already is centered."

Builders look for level, arable land because it involves lower construction costs, cuts drainage problems and provides room for long airport runways. And too, he said, more and more land is going to automobile parking areas.

This urbanization and industrialization of agricultural land set up a chain reaction that extends right down to the field of interest of agronomists and soil conservationists, Dr. Williams said. As land changes from agricultural to residential or commercial, tax valuation rises on all land within the affected area, and pressure on local and state taxing units increases for more schools, sewers and other facilities. When this happens, Dr. Williams said there is a tendency to increase property taxes on the remaining agricultural land, thus intensifying the farmer's problems.

Also, he continued, farmers hesitate to establish conservation farm plans and to follow other land improvement programs that won't add to the price of the land for non-agricultural uses. Also, as the better cultivable land shifts to other uses and as food demands rise at local urban market points of heaviest need, food production inevitably shifts more and more to lands that are less suitable for cultivation.

As more and more good farm land in urbanized areas "goes under roof," agricultural problems increase. In some areas up to a third of the area's land surface has been taken out of farmland, pasture or woods and covered with paving, houses and other surfaces that produce almost 100% water runoff with a high flood potential. In other places, stream courses have been changed or their channel restricted for residential or industrial purposes, so that only complete conservation treatment of the watersheds above those points can relieve the continuing flood threat.

Along with more intensive and efficient management and use of the remaining agricultural lands in these areas, Dr. Williams said much research needs to be done, not only along agronomic lines but also in engineering and other fields.

"We don't have all the answers," Dr. Williams said, "but it is possible to use the less productive land for non-agricultural use." Some other answers to the problem, he said, include zoning ordinances and policies that will make it possible for the economy to expand without unnecessary encroachment upon our productive croplands.

The individual suburban property owner can't solve these land and water problems alone, Dr. Williams said, but big industry, military, highway, recreational and other interests can do a great deal to meet some of these problems. "An important job of education is involved," he said.

Coping with problems like urbanization of agricultural lands also depends upon the continued and ever closer teamwork of all agencies and interests — government and private, local, state, federal, research, educational, technical and financial, Dr. Williams concluded.

SHOP TALK OVER THE COUNTER FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

"Oh, Ma," says 10-year old Jim as the farm family's car comes down the highway toward Smithville. "Do you need something from the Smithville Farm Supply Store today?"

Mother looks over at dad, inquiringly, then says, "Maybe. Why?"

"Well, some of the kids say that they're giving away bubble gum free. I want some."

"Bubble gum at Farm Supply? Are you sure?" asks the mother.

"Sure," says 12-year old Susie. "All the kids are talking about it. If you come to the store with your parents, you get bubble gum free. It's in a bowl on the counter. I want some, too."

Situations very similar to the above imaginary conversation are occurring daily and are valuable trade building promotions. Further, giving away bubble gum is inexpensive but entices mom and dad into the store in many cases where they would not come otherwise.

Bubble gum—let us say that 500 pieces cost $5—can be a good trade stimulator worth many times its cost. It can win new customers for the dealer.

Another dealer buys 500 lollipops for $4.50 from a candy jobber every so often and advertises this fact in his local newspapers. He finds this an inexpensive but worthwhile promotion. He specifies in his ads that parents must come in with their children to get a lollipop, so that they can be placed in the position of looking at the merchandise and possibly buying an item or two.

Still other dealers hand out suckers to the kiddies. Suckers have the advantage of enticing the children to unwrap them immediately and put them in their mouths, leaving their parents free to look around the store and shop.

Occasionally a dealer has an open freezer case, which he allows farmers to use for storage of frozen poultry for sale to shoppers. In some cases, the freezer is used for ice cream frost sticks, popsicles, etc., which the dealer sells during the hot summer months.

Some dealers install soft drink and milk dispensers. These have the advantage of not taking up much room and allowing a small margin of profit for the dealers as well as being a convenience for the customers.

Many of these trade building ideas are inexpensive, require little work on the dealer's part and may be the gimmick to attract the customer to his store rather than have him shop somewhere else.

Cool Stores, Hot Sales

Cool retail stores in summer mean better sales. At least this is the contention of a group of retailers polled recently in a survey to see what dealers think of air conditioning.

These were among the comments reported in the survey: Our customers stay longer and impulse sales go up; air conditioning is a major investment that gradually improves business and helps employee relations; I don't have employees quitting in the summer any more; work efficiency has gone up considerably.

One dealer said: "I didn't realize I could make my own five-ton installation so cheaply. My cost was $1,800. I wish I had done it sooner."

Nearly every retailer said that air conditioning was a wise investment, on a par with self-service fixtures or a modern cash register.

Merchandising Scheme

A new merchandising scheme which would provide free insurance policies with grocery purchases is under study by Arkansas state insurance and legal officials to determine its legality.

The plan would be similar to the one in which merchants give away trading stamps, redeemable in merchandise. A store owner would pay the insurance company an amount equal to 2% of the amount of insurance to be issued.

With grocery purchases, the buyer would get a stamp book, a brochure explaining the plan and stamps depending on the amount of the sale. The purchaser would get a $1 insur-

(Continued on page 13)

Employee Suggestions—A Rich Source of Ideas for the Dealer

By AL. P. NELSON
Croplife Special Writer

"I never suggest an idea to John anymore," a farm store employee told me confidentially one day when I had a chance to talk to him. "He never says whether they are good or bad, and he never uses them. So I quit scratching my head for ideas. I do my regular work and let it go at that."

It is a mighty good thing that all dealers are not like the owner described by this employee. That dealer evidently is a fellow who knows it all, who is determined to run his own business the way he thinks it should be run, and he also most likely thinks his own ideas are the best obtainable.

While I didn't get a chance to talk to his other two employees, I can well imagine that their morale was not any higher than that of the worker to whom I spoke.

Can dealers get worthwhile suggestions from their employees? Many a time I have interviewed a dealer, have had him tell me of a cost saving or business building idea which is being used in the store and have him give credit to an employee for it.

And in many instances the dealer has introduced the employee to me, and I could see that the employee was mighty happy about the honor accorded his idea. In fact, I believe that any observant salesman or industry representative can spot a store where there is mutual respect and cooperation between owner and employees. And usually in such an establishment you'll find that customers are well pleased with the products they buy and the service they receive, for customers, too, can spot a business where owner and employees work together to make a good business team. And a good business team usually results in better service to the customers.

An employee who contributes a good, workable idea to his boss, is entitled to some sort of reward, depending on the importance of the idea and its value to the feed dealer. A reward, plus adequate recognition, "mental wages" if you prefer, will cause most employees to think more analytically

(Continued on page 12)

What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6438—Turf Fungicide

The Upjohn Co. has announced a new turf fungicide, Actidione RZ, for the control of large brown patch, melting-out, fading-out, dollar spot and pythium. Company officials say that the product, when primarily tested on golf courses with the cooperation of golf course superintendents, provided in excess of 95% control of the five major diseases. Excellent protective and curative properties were claimed in widespread geographical locations. Secure more complete details by checking No. 6438 on the coupon and mailing it to Croplife.

No. 6439—Iron Deficiency Booklet

A revised booklet entitled, "Perma Green Iron 135," has been prepared by the Refined Products Corp. The booklet states that "iron deficiency in plant life is present in nearly every region of the earth" and claims that the company's corrective product is an "effective organic iron chelate for all soils." It is recommended for vegetables, fruit, flowers, shrubs, trees and turf. Sections of the booklet are devoted to the "what, why, where and how" of the product, suggestions for use, application methods, color reproductions showing adequate and deficient minerals in soils. On the last two pages containing photographs are found reproductions of transparencies showing results of foliar application with an iron chelate. Secure the booklet by checking No. 6439 on the coupon and mailing it to Croplife.

No. 6434—Vermiculite

Vermiculite as a fertilizer conditioner is described in a new publication of the Vermiculite Institute. The institute's announcement states: "This inert, fireproof mineral weighs only 10 lb. per cubic foot, contains less than 1% moisture, and is non-hygroscopic. It contains about 27½ million particles per pound, is highly absorbent, and is packed in lightweight bags that make for easy handling and storage." The material is processed in some 40 plants in the U.S. and Canada. "Vermiculite in Agriculture," with a special insert for fertilizer manufacturers, is available without charge. Check No. 6434 on the coupon and mail it to Croplife.

No. 6435—Booklet on Native Grasses

Section two of a booklet series on pasture and range plants has been published by the Phillips Petroleum Co. Entitled, "Native Grasses, Legumes and Forbs," the 40-page booklet describes 32 plants and pictures them in full color. The introduction states that the company's goal with the booklet is "to broaden the knowledge of pasture and range plants." It adds that "all of us depend far more than we realize on range vegetation as the basic source of our own and of our nation's strength, vigor and vitality." An invitation is issued to visitors to observe the results of "good management and use of fertilizers on native and introduced grasses," at the Phillips agricultural demonstration project, Foraker, Okla. Secure the booklet by checking No. 6435 on the coupon and mailing it to this publication.

No. 5483—Mixer Bulletin

An 8-page bulletin illustrating its horizontal mixer which features "triple action mixing" has been published by the Strong-Scott Manufacturing Co. The mixer is claimed to be ideal for mixing wet or dry materials and blending those of pulverized or granular sizes. Among the industries which have application for the mixer are the feed and fertilizer trades. The bulletin, No. TSB6-538, is available without charge by checking No. 5483 on the coupon and dropping it in the mail.

No. 6440—Soil Treatment

A new method of treating soil for pH and soil structure is described in a folder entitled "Agricultural Ferric Sulfate" published by Stauffer Chemical Co. The folder contains complete how-to-use instructions. It claims that ferric sulfate—which has been used as an industrial chemical for many years but only recently has been found to be a valuable agricultural aid—has three basic functions: Because it is essentially acidic, it corrects soil alkalinity; it supplies iron for soil enrichment; and, the ferric hydroxide and ferric oxides which it forms in the soil, coat individual soil particles so that they do not clod or pack. The folder is obtainable, without charge, by checking No. 6440 on the coupon and mailing it to Croplife.

Send me information on the items marked:

☐ No. 5469—Conveyor	☐ No. 6433—Plant Equipment
☐ No. 5483—Mixer Bulletin	☐ No. 6434—Vermiculite
☐ No. 6425—Aphid Control	☐ No. 6435—Booklet on Grasses
☐ No. 6426—Liquid Fertilizer	☐ No. 6436—Anhydrous Ammonia
☐ No. 6427—Liquid Plant	☐ No. 6437—Cattle, Barn Spray
☐ No. 6428—Grasshopper Film	☐ No. 6438—Turf Fungicide
☐ No. 6429—Formulation Pad	☐ No. 6439—Booklet
☐ No. 6430—Packer	☐ No. 6440—Soil Treatment
☐ No. 6431—Slide Set	
☐ No. 6432—Solutions Film	

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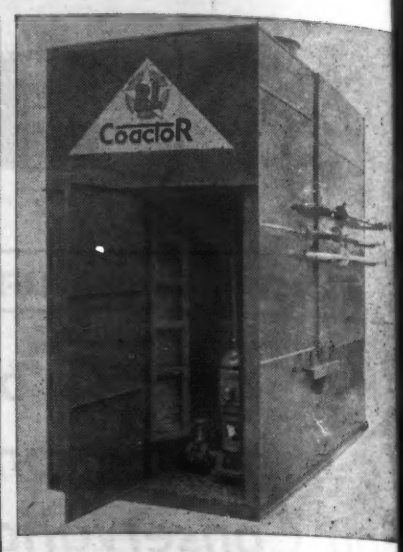
Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6427—Liquid Fertilizer Plant

A new, continuous flow, neutral solution liquid fertilizer plant has been introduced by chemical plants division of Barnard & Leas Manufacturing Company, Inc. Claimed to be



the heart of the plant is the "B&L CoactoR," a self-contained liquid fertilizer processing unit. It consists of an automatic controlled reaction circuit with circulating pumps, evaporative cooling system and all necessary internal piping. It is designed for ready installation by connecting raw material supply lines, finished product lines and wiring for power. The "CoactoR" receives raw material direct from tank cars and produces a neutral solution liquid fertilizer that can be stored in ordinary non-pressure black iron tanks, company officials state. A wide range of ammonium phosphate solutions and complete fertilizer formulas can be produced as well as aqueous ammonia. Many soluble insecticides and weed kills can also be added to the solutions without destroying their effectiveness, it is claimed. The unit is automatic in operation. Controls are pre-set for the desired formula and can be changed for producing various fertilizer solutions. Automatic safety control instantly stops material flow if raw material supply is shut off. The unit is available in capacities up to 20 tons per hour. Complete details may be obtained by checking No. 6427 on the coupon and mailing it to Croplife.

No. 5469—Conveyor

A 4-page bulletin on the new Farquhar Ve-Be-Veyor aluminum power belt conveyor is available without charge, according to an announcement by the manufacturer, A. B. Farquhar Division, the Oliver Corp. The bulletin, which is fully illustrated, gives information on the construction advantages incorporated in the conveyor. Complete specifications, including such information as frame construction, dimensions, weights of the three sizes available and motor power, are explained. To secure a copy check No. 5469 on the coupon and mail it to this publication.

No. 6436—Anhydrous Ammonia

The Agricultural Ammonia Institute has published a folder entitled "Producing Quality Corn More Efficiently with Agricultural Ammonia." Recommended practices, such as when, how and the quantity to be applied on corn are outlined. Testimonial statements from farmers and soils authorities are printed in the folder, as are five specific advantages for using anhydrous ammonia. Secure the folder by checking No. 6436 on the coupon and mailing it to Croplife.

No. 6425—Aphid Control Booklet

An 18-page booklet prepared by the agricultural chemicals division of American Cyanamid Co., is entitled "Control the Spotted Alfalfa Aphid With Malathion." The booklet considers the seriousness of the pest, history and spread of the aphid, damage to alfalfa, how to identify it, host plants, controls, advantages of malathion, how to use the product and points to remember in a control program. Advantages claimed for malathion are: Effective control i

ll areas, safety in handling, may e used next to barns and livestock, uitable for treatment for alfalfa to e fed to cattle, effective for mites, reevil larvae, leafhoppers and other lfalfa pests and availability in spray nd dust formulations. The booklet available without charge. Check o. 6425 on the coupon and mail it o Croplife.

No. 6429—Formulation Pad

A sample formulation pad for use n fertilizer mixing is being distributed free by the Nitrogen Division f Allied Chemical & Dye Corp. Mixng companies can use the sample as suggested design in making up their wn formulation pads, company officials state. The pad contains 90 identical forms which mixers can use in ecording ingredients used in any iven mixture. Inside covers of the ad carry three sets of tables: (1) Detailed analyses of nitrogen solutions; (2) the number of pounds of ach solution that must be used to dd specified units of nitrogen; (3) he equivalent acidity or basicity of ll commonly used nitrogen carriers. copy of the formulation pad may e obtained free by checking No. 429 on the coupon and mailing it to Croplife.

No. 6426—Liquid Mixed Fertilizer

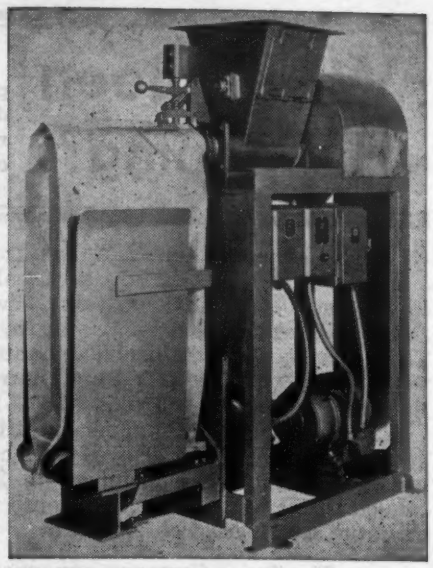
The Midstate Machinery Co. has repared a brochure entitled, "Everything You Need to Manufacture and Sell Liquid Mixed-Fertilizer." Three eparate liquid mixed-fertilizer plants have been designed by the company, ccording to the brochure. Each one an be assembled and erected locally r can be purchased with erection completed. Capacities range from 10-30 tons per hour. All plants incorporate the scale system, and ingredients are weighed as they are added during the manufacturing process. Described in the brochure are the company's facilities for providing equipment, training, chemical formulas, cost data, sources of supply and merchandising aids. To secure the brochure check No. 6426 on the coupon and mail it to Croplife.

No. 6428—Grasshopper Film

The Shell Chemical Corp. has produced a film on grasshopper control for farmer meetings and other events. The film, "Exit Grasshoppers," a full-color, 10 min., 16 mm. sound movie, is available to county agents. The movie describes grasshoppers, the damage they do and how they are controlled with modern insecticides. Recommended control practices are shown for both crop and range land. Filmed during two recent grasshopper wars, the film tells how aldrin, Shell insecticide, has been used to treat infestations. It shows a U.S. Department of Agriculture cooperative control project over millions of acres, and a University of Wisconsin aldrin spray demonstration in severely infested crops. Check No. 6428 on the coupon, clip and mail it to secure more complete details about securing the film.

No. 6430—Volumetric Packer

The automation principle applied to a bag packer in a manner that employs the bulk material being packaged to act as the motivating power source is one of the features of the new model VP Volumetric packer, recently announced by the H. L. Stoker Co. A company official states: "We are proud to announce this unit, with its special features, as a machine that almost thinks for itself, assuring uniformity of content volume with automated settling of material. We feel



that it offers higher productivity, and surer volume control with an absolute minimum of care." Complete data on the unit is available without charge. Check No. 6430 on the coupon and mail it to secure more complete details.

No. 6437—Cattle, Barn Spray

The McLaughlin Gormley King Co., Minneapolis, has announced that its new "MGK Repellent 11" has been accepted and registered by the Food and Drug Administration and the U.S. Department of Agriculture for pesticide use on dairy cattle and in dairy barns. This new repellent, a butadiene derivative, is the first and only pesticide registered for such use since the passage of the Pesticide Residue Amendment, according to the firm. Cattle, barn and dairy sprays including "MGK Repellent 11" repel flies, mosquitoes and roaches. They have a residual efficiency of at least 72 hours when properly formulated and applied, they require no FDA tolerance, do not contaminate milk and are completely safe for consumers of dairy products, the firm states. The new chemical was developed by Phillips Petroleum Co., and McLaughlin Gormley King Co. is operating under a license in the marketing of this new repellent. For more information check No. 6437 and mail the coupon.

No. 6431—Slide Set on Alfalfa

A slide set on alfalfa production has been assembled by the American Potash Institute, Inc., with the help of several cooperators. A detailed script to accompany the slides is also available. Covered in the slides and script are such topics as uses of alfalfa, advantages, nutrient requirements and 10 steps to successful alfalfa production. The 10 steps involve a soil test, liming as needed, use of corrective fertilizers, preparation of a weed-free seed bed, use of certified, inoculated seed, use of starter fertilizer followed by regular fertilizer applications annually, tissue tests to detect nutrient deficiencies, insect control and proper cutting and grazing. The slide set and script are obtainable on a rental basis or can be purchased in any quantity desired. To secure more complete details check No. 6431 on the coupon and mail it to this publication.

No. 6432—Nitrogen Solutions Film

"How to Use Nitrogen Solutions" is the title of a new film recently released by Nitrogen Division of Allied Chemical & Dye Corporation. It deals with the use of nitrogen solutions for direct application and covers many phases of this method. Using a step-by-step approach, it tells how nitrogen solutions are handled, stored and applied. Many different types of applicators are shown in use on farms of the Midwest and South. The film is aimed directly at the farmer and is designed to answer his most common questions about nitrogen solutions. Original ballad music lends an entertainment flavor. The new movie runs 14 minutes and is 16 mm, sound and color. Clubs, schools, companies and farm organizations may borrow a print at no charge. To secure more complete details check No. 6432 on the coupon and mail it to Croplife.

No. 6433—Fertilizer Plant Equipment

New literature has been prepared by the Chemical Engineering Service division of Manitowoc Shipbuilding, Inc., describing its granulators, hopper systems and other fertilizer plant equipment. A folder describes the firm's small pelletizing unit. Characteristics claimed for this unit are: It may be shut down, fully loaded, and restarted at any time; no dust build up; no sulphuric acid required on low nitrogen grades and moisture content 2.5% or less. Outlined in a booklet is a description of hoppers and mixing systems manufactured by the company. The systems are available in automatic, semi-automatic or manual designs. The 26-page booklet includes cost comparison charts, allowing the operator to compare his present costs with those under the firm's hopper system. Secure the literature by checking No. 6433 on the coupon and mailing it to Croplife.

Junior Growers Start Fumigation Competition

NEW YORK — Soil fumigation is recognized by the National Junior Vegetable Growers Assn. as "the fastest growing new practice in agriculture." The N.J.V.G.A. Newsletter, distributed to thousands of leaders and members throughout the country, points out that in many places nematodes, microscopic worms in the soil, have injured crops so consistently through the years that their damage has been taken for granted as a natural condition.

To promote wider understanding of this practice among the young horticulturists who make up N.J.V.G.A. membership, the association has begun a competition, under their production and marketing section, which specifically calls for the use of a fumigant in accordance with applicable recommendations, all treatments and gains in production to be fully reported.

SUPERINTENDENT NAMED

NEW YORK—The appointment of H. L. Martin, Jr., as general superintendent of maintenance, the American Agricultural Chemical Co., exclusive of the phosphate rock mines was announced by B. R. Richey, vice president in charge of production. Mr. Martin was formerly division superintendent responsible for production of the company's western division.

SUGGESTIONS

(Continued from page 9)

about the business and this will result in more ideas.

To have a stream of thoughts go through an employee's mind while he is working is not orderly thinking. The kind of thinking a dealer wants an employee to do is thinking about the business, how it can be improved, how new customers can be won, how costs can be cut through better operation ideas, etc. Rewards (cash) plus recognition of ideas are the factors which will encourage many employees to think along the lines you wish them to think.

Much has been written and said about employee suggestion boxes. This is an idea which is as old as the hills, but it will always work. A suggestion box is a daily challenge to every employee to put some worthwhile contribution into it more or less regularly. And men like challenges.

"If I had the money and the breaks I could run a successful business like this." This is what many employees think. Well, the suggestion box is a chance for such employees to prove that they have successful management ideas. Let them put them in the box and stack them against the dealer's considered judgment. Let those employees whose ideas are acceptable get a cash reward for them. This will make the employees more valuable to the dealer and turn them into better salesmen.

To those who doubt that employees like the suggestions system, it can be stated that General Electric Co. has issued a report which says that in the past 11 years employees of that large company have turned in 944,778 suggestions of which 217,013 were adopted and for which employees received a total of $9,232,540. The maximum GE award for adopted suggestions is a $2,500 U.S. savings bond.

Consider this ratio of accepted suggestions to what might be expected in your store. Suppose that out of every 4½ suggestions employees put into your suggestion box, you would find one acceptable. That's a mighty encouraging proportion, isn't it? Your employees might not achieve it at once, but the more they think seriously about your business and their jobs, the more suggestions they will turn in. And when they get that extra cash for an accepted suggestion, they'll be proud and there will be no stopping many of them.

If you do not have a suggestion box system, you may be passing up many ideas which could make your business more successful than it is. The use of a suggestion box, too, is one way to make your employees more alert and productive. This can well set the stage for an effective employee training course, which can benefit you a great deal in these competitive days.

Do not expect that all your employees will turn in suggestions. Some of them may not. Some are not temperamentally and mentally suited to think in a business building way.

But some of your employees will turn in ideas—many of them. Through the suggestion box system you can quickly learn what your employees are thinking.

These suggestions will also indicate to you how much or how little your employees know. You will be able to judge more accurately which employees are capable of developing into star performers. You will also be able to get many ideas to prop up your employee training course.

There is so much to gain and so very little if anything to lose by using the suggestion box system, that one can safely recommend it for extended use by all dealers.

Progress Reported on Chemical Control of Rust in Durum Wheat

WILMINGTON, DEL. — Chemical control of rust in durum wheat looks promising for this year on the basis of growers' past experience with "Parzate" liquid nabam fungicide, according to the Du Pont Company. Nabam has also been rated high in state college rust control investigations in durum wheat areas, company officials state. A residue to tolerance of one part per million for nabam in wheat has been established by the Food & Drug Administration.

The virulent strain of rust which has been prevalent in durum wheat areas has cut North Dakota's crop to one-sixth of average, and has generally made it impossible to grow even a fair crop. Yields in North Dakota last year averaged 4 bu. to the acre compared with a 14-bu. average for the previous 10 years.

Plant breeders have not yet been successful in breeding durum wheat to resist this strain of rust, it is claimed.

In 1955, the product was evaluated on five North Dakota farms: Two fields belonging to Clyde Barks of Egeland; Paul Abrahamson's farm in Rolla; on five acres belonging to Ole Ericksmeon in Leeds; on Melvin Johnson's farm in Sheron; and in a 10-acre field belonging to Ed Dornacker in Mayville.

Du Pont officials said yield increases on these farms ranged from three to 17 bushels per acre in treated wheat compared with untreated where rust was moderately severe. Perhaps more important than the yield increases, they said, are: 1) the crop was saved, 2) test weight on treated wheat was normal, 3) treated wheat has excellent milling quality and 4) germination is not affected by treatment.

Phillip Alampi Named to New Jersey Position

TRENTON, N.J. — Phillip Alampi, for many years prominent in radio and television farm broadcasting activities, took office on July 1 as New Jersey Secretary of Agriculture. The appointment was recently announced jointly by Gov. Meyner and Henry D. Rapp, Jr., the latter, president of the state board of agriculture. Mr. Alampi succeeds Dr. Willard H. Allen who retired Feb. 1, and William C. Lynn who served as acting secretary in the interim.

As radio farm and garden director of the National Broadcasting Co., New York, Mr. Alampi is well known as an agricultural authority. He is a graduate of Rutgers University, New Brunswick, N.J., where he was an honor student and a member of Phi Beta Kappa.

Since his graduation in 1934, Mr. Alampi taught vocational agriculture and coached athletics at Woodstown, N.J., and in 1946, inaugurated a farm program on radio station WJZ, New York and later transferred to Station WRCA, New York. He has received many awards for his service to agriculture and served as president of the National Association of Radio Farm Directors.

INDIANA RAINFALL

LAFAYETTE, IND.—Rainfall between Oct. 1 and April 30 in the northwest quarter of Indiana was three to four inches below normal, according to an estimate by Lawrence A. Schaal, state climatologist at Purdue University. He said, however, that amounts ranging from two to five inches above normal for the seven months period, fell in the south and northeast portions of the state.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Although consumption of fertilizers in the U.S. and territories showed a decrease of 0.22% during the fiscal year ending June 30, 1955, the total use of plant food nutrients set a new record, according to the annual fertilizer use report issued annually by the U.S. Department of Agriculture. Total tonnages of fertilizers amounted to 22,723,705 tons, 49,794 tons less than the previous period. Plant nutrients, however, amounted to 6,119,841 tons, which was 224,283 tons (3.80%) over that used in the previous year.

The Agricultural Ammonia Institute reported that sales of NH_3 in the January-to-May period showed an increase of 17.38%. This figure was based on reports from AAI members in 25 states and Canada. Reported sales totaled 30,471 tons for the five month period, as compared with 25,958 reported in the same period of last year.

The Texas Company announced that it would begin construction on a new 180-ton-a-day ammonia plant at Lockport, Ill., this fall. According to L. C. Kemp, Jr., general manager of the Texaco petrochemical department, production at the new facilities is expected to begin late in 1957.

The fertilizer industry in 1954 added $234,000,000 to the U.S. volume of manufactured goods, according to the 1954 census of manufactures released by the U.S. Bureau of Census. This compares to the $187 million which the industry added by manufacture in 1947, when the last census was made.

Some 30,000 acres in Colorado were sprayed for grasshopper control as a starter in a 212,000-acre total in Las Animas and Baca counties. It was also announced that there is a possibility of spraying another 10 or 12 thousand acres in Douglas county. Bids were let on June 22, for 300,000 acres in Lea, Union, Quay and Harding counties. Additional acres in Texas were also set for treatment against grasshopper infestations.

An increase of 16% in the output of organic agricultural chemicals was reported by the U.S. Department of Agriculture for 1955. A total of 484 million pounds of chemicals was produced in 1955 as compared to 419 million in 1954, the U.S. Tariff Commission reported.

The agricultural chemical industry expressed varied opinions on the effect the soil bank would have on plant food sales this season, with both pessimism and optimism being noted. The only favorable aspect of the soil bank, so far as the plant food industry is concerned, appeared to be in the corn belt. Production reduction of most crops will not be significant, which means that surpluses will not be reduced substantially.

More than 1,100 persons attended the first annual meeting of the National Plant Food Institute in White Sulphur Springs, W.Va. June 10-13. Edwin Pate, Dixie Guano Co., Laurinburg, N.C., was elected chairman of the board, and Charles T. Prindeville, Swift & Co., Chicago, was named president.

The International Cooperation Administration announced it will make a study of the U.S. fertilizer aid program for Korea. The U.S. has been providing Korea with about $50 million worth of chemical fertilizers a year . . . A federal-state program for control of gypsy moths was being undertaken on 500,000 acres in parts of New York, New Jersey and Pennsylvania.

Results of a survey sent out to 48 states and U.S. territories by Rodney C. Barry, state chemist of Virginia, indicate that the use of fertilizer and pesticide mixtures is growing throughout the nation. More states than ever before report that such mixtures are legal and are being used in increasing tonnages within their borders.

United Heckathorn Co., Richmond, Cal., was awarded a contract for spraying 180,000 acres in Florida for control of the Mediterranean fruit fly which had infested a strip 10 miles wide and 35 miles long. Three applications of malathion were to be made, and soil applications of dieldrin and heptachlor will also be made in some areas.

A fertilizer consumption report issued by the National Plant Food Institute showed a decrease of 1.3% in overall tonnage for the calendar year 1955, as compared to the previous 12-month period. However, due to the manufacture of increasingly high analysis mixed fertilizers, the plant food content of the total was expected to show a slight increase. The total tonnage of fertilizers, as compiled by the Institute, was 20,416,410 tons. The previous high, in 1954, was 20,679,026 tons.

Although tonnages of fertilizers shipped thus far in the 1956 season do not measure up to those of last year, still the nutrient content of these materials was expected to hold up because of higher grades of mixtures. Thus indicated the U.S. Department of Agriculture in its supplemental report of the fertilizer situation for 1955-56. Trade observers, however, predicted that much of the tonnage loss may be made up later in the season.

A frost of record proportions was expected to damage New England crops to the extent of $10 million, according to reports from the states comprising this group. Crops affected by the frost included strawberries, sweet corn, peppers, beans, cucumbers, spinach and tomatoes.

International Minerals & Chemical Corp. announced that it would build a factory for the production of chemical plant food mixtures at Fairfax, Minn. The announcement was made by Maurice H. Lockwood, vice president in charge of the IMC plant food division. The new plant was expected to be in production in time for the 1957 season.

New approaches to weed control were discussed at the recent weed control conference held at Rutgers University, New Brunswick, N.J. USDA and University experts described the results of recent tests with various chemical compounds.

Albert L. Taylor was named to succeed Dr. Gotthold Steiner, as head of plant nematology research in the U.S. Department of Agriculture. Dr. Steiner recently retired after a career of 34 years in the department.

enefits of Informing rowers of Plant isease Spread Cited

NEW HAVEN, CONN.—How Conecticut growers are kept informed probable spread of plant diseases om day to day during the growing ason was described recently to embers and guests of the Canadian ytopathological Society by Paul E. aggoner. Dr. Waggoner, head of the epartment of Climatology at the onnecticut Agricultural Experiment tation, was guest speaker at the ciety's annual banquet at the Uniersity of Toronto, host to the annual nvention of the Agricultural Instite of Canada.

He cited three benefits to growrs from the station's study of how eather affects the spread of plant iseases.

Accurate forecasts of plant disease read prevent spraying when not eeded, and warn growers to spray hen disease is imminent after they ve stopped spraying during a long ll in outbreak of disease.

The study of weather and plant sease spread helps to determine hether the disease threat can be t by individual action of growers, whether area-wide control proams are needed.

Research on weather and plant disses also helps to determine fungide design: materials that act in ter are required if infection occurs water; materials that act as vapors e required if infection occurs under y conditions.

Dr. Waggoner pointed out that ores of plant pathogens, which use disease, are carried to plants by in movement. Connecticut rearch draws on the studies of meorologists as they seek to underand the diffusion of poisonous gases wastes from atomic reactors, for ample. With this information it is ssible to predict the probable ext of disease spread even before exrimental evidence is at hand.

Plant disease forecasts on tobacco ue mold and apple scab, made by e station staff, are relayed to growrs through the Extension Service. r. Waggoner says that these disses appear 10 to 20 feet downwind each jump from sources of infecon. Damage increases as plants grow rger, and is greater for fungi with rger spores. These differences seem cause more of the spores to be ught on the plants. Severe disease sses occur only after considerable ultiplication has taken place in the mediate neighborhood.

Weather has an effect also on the mber of plant pathogen spores oduced, as does time of day. Many ant pathogens produce most of their ores in the morning. Therefore, eir survival is favored by cool, oist daytime conditions.

Finally, there is good reason to suppose that the larger the portion of the host that one spore infects the large the disease losses will be.

CHEMICAL SALES CLINIC

NEW YORK — Carter L. Burgess, assistant secretary of defense, has accepted an invitation to be the luncheon speaker at the fifth annual Chemical Sales Clinic, to be held by the Salesmen's Association of the American Chemical Industry Oct. 15 at the Hotel Commodore, New York.

FARM SALES

MORGANTOWN, W.VA.—Four West Virginia counties reported cash farm sales of more than $5 million in 1954, according to the Bureau of the Census. They are Jefferson, Berkeley, Hardy and Pendleton.

National Directory of Safety Films Available

CHICAGO—The 1956 National Directory of Safety Films is now available from the National Safety Council. The directory provides a source of information on films on safety, first aid, fire prevention and civil defense. It describes more than 1,200 films that are available without restriction on distribution.

Among the subjects covered are industrial, commercial transport, traffic, home, farm and education. Many of the films are cleared for television and some for theatrical distribution. Each film is available for purchase, rental, loan or long-term lease from one or more of 292 distributors. A single copy of the National Directory of Safety Films may be purchased for $1 from the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Elected Director

NEW YORK—St. Regis Paper Co. announces that Folke Becker, chairman of the board of Rhinelander Paper Co., was elected a director of St. Regis at a recent meeting of that company's board of directors. He fills a vacancy created by the retirement of Carl B. Martin from the board. Mr. Becker's election to the St. Regis board follows the declaration of effectiveness of the offer of exchange of the shares of outstanding common stock of Rhinelander (Wis.) Paper Co. for the shares of common stock of St. Regis Paper Co. on a share for share basis.

OVER THE COUNTER

(Continued from page 9)

nce stamp for each $1 spent on roceries.

When 100 stamps are accumulated the book, the owner would send the ook and an application to the insurnce company. The application would clude such information as the name, ddress, beneficiary, weight, height nd date of birth.

The stamp collector, in return, ould receive a single premium, nonenewable one-year policy with a face alue of $100. The amount of insurnce to be written would be limited $2,500.

If the legality of the plan is estabshed, there is a possibility that a ew scheme of merchandising will ave arrived.

Doing Business With

Oscar & Pat

By AL. P. NELSON
Croplife Special Writer

It was almost 8:30 and Pat McGillicuddy, partner in the Schoenfeld & McGillicuddy Co., farm supplies, was not yet on the job. Oscar Schoenfeld, his rotund, balding, and paunchy partner, didn't like such laxity at all. He sat fidgeting at his desk, trying to figure discounts, but he was too upset.

"Now he is late again," he said petulantly. "Why in the world can't he get up in the morning and come to work on time like the rest of us do? Ach, such a man."

Tillie, the plumpish, nervous bookkeeper, looked up from her work. "Perhaps he was down here late last night working on displays or advertising."

"Huh," snapped Oscar, "that is always his excuse. We could do without displays and advertising for six months. Ach, if I was runnin' this business all by myself, I would—"

He broke off at that moment because Pat McGillicuddy came in and walked directly to the center of the store. "Yes," he said as if talking to himself, "it would fit right here."

Then he turned and said to Oscar: "I'll be back in a half hour. I'm taking the light truck and Pete from the warehouse to go to the lumber company and get a couple of saw horses."

"B—but the delinquent accounts!" Oscar reminded him sharply. "Ach, you said you would work on them today."

"I'll get at them later in the day," Pat said, his lanky form moving toward the door. "This idea can't wait."

"I'll bet it costs money, too!" shouted Oscar. But Pat was in the warehouse and did not hear this remark. Tillie, who was inclined to ulcers, reached over and took a powder from a small box and chewed on it.

"You promised not to fight with Pat in the office," she reminded Oscar. "You said you would have your discussions in the warehouse."

"Who can hold his temper with that dumkopf always working on ideas?" Oscar growled. "Why don't he stick to one idea for a long time? Do we have to have new ideas every day to keep this business going? Expenses! Pat doesn't care how many we have. And then when I ask him to collect delinquent accounts, he puts it off."

When Pat came back a short time later, he and Pete Haines, the red headed, chubby warehouse employee, carried saw bucks. These they placed in an aisle, then walked outdoors and came back with table tops which they had borrowed from Pat's church. These tops were made of four six inch boards nailed together with a strip. With the aid of saw horses, they could easily be set up for church dinners and taken down easily, too, and stored.

Oscar left his desk and came over to take a look. "What is this going to be?" he demanded. "Another island?"

"No," Pat said slowly, "this is going to be a display on the new DDT granules."

Oscar bit his lips. "What's the matter with all the regular insecticides we have in stock? Ach, ain't they good enough for farmers to use?"

"They serve their purpose," Pat said quietly, as he set up the table with Pete's help, "but the DDT granules constitute a new way to kill corn borers. The granules are put into the whorls of the corn. At Iowa State College this method has killed many corn borers and increased the per bushel yield of corn per acre. I've gotten a number of folders on it from the college, and pictures, too."

"And I suppose we are going to get rich on that display?" Oscar asked. "Will we sell enough of the DDT granules to take an extra vacation with pay this year?"

Pete Haines grinned as he bent down to adjust a saw horse. He always enjoyed these quarrels between the partners, and so did the rest of the employes. They admired Pat for his audacity with ideas, despised Oscar for his stinginess, but they also admired Oscar for his practical nature and his desire to cut out the frills in sales promotion. The employes, in discussions among themselves during lunch hour, often remarked how human extremes like Pat and Oscar, balanced each other—at a profit, thus far.

Pat McGillicuddy lay down his hammer, puts his long leg upon a sawhorse and looked at his partner. "Now look, Oscar, we are not going to make a lot of money selling this DDT insecticide in granular form, if that is what you mean."

Oscar's face took on a still more stubborn look. "Ach, then why are we doing it? Just to be in style, or something?"

Pat smiled a little. "Well, yes, maybe," he said.

"And collection is out of style then, nein?" Oscar taunted.

Pat scatched his jaw to keep from retorting hotly. "Oscar," he finally managed to say, "we are putting up this DDT granule display to bring it to the attention of farmers and build store traffic. We want to show them that we are keeping up with all developments in our business. That will make farmers have more confidence in us and our recommendations. And at the same time we teach them something new, which is also the function of a good customer relations program."

"Ach, why, do we want to teach them anything," Oscar snorted. "Some of them know too much already, the way they talk. What we want to do is sell them. Let's keep our mouths shut more often, nein, and sell more—for cash. What's wrong with that policy?"

"Nothing is wrong with the idea of selling more, Oscar," persisted Pat, "but you and I have different ways of doing that job. This display will cause farmers to talk a lot. They'll read the posted bulletin, look at the pictures and remember what they saw. They like new things. They'll talk about it at mealtime and when they visit other farmers. Our store name will be mentioned."

"But that doesn't collect the bad accounts," Oscar said. "When are you going to collect that money?"

Pat looked at the clock. "We'll finish this display in another hour. Then I'll have lunch. I should be able to put in a few hours on collections this afternoon."

"If you don't we'll have to borrow money for payday Saturday," Oscar warned. "At six per cent, too. Or maybe the banker will take some packages of DDT granules as interest."

Pat's blue eyes flashed angrily at this implied insult to his sales promotion idea, but he counted to ten before he replied. "I'll go out and collect enough for the payday, Oscar, begorra," he said. "And if we are ten dollars short of making your salary, I will lend it to you, so you and Minnie won't have to go hungry over the week end." With that he bent down to work on the display once more.

For a moment Oscar stood stock still. Then, as the full import of Pat's insult sank into his mind, he quivered with rage. He and Minnie go hungry, when they had five times as much money as that Irisher.

He whirled and walked quickly back to his desk. Some day he would get back at that Pat. He would see that his, Oscar's way of life and running a business, was better. His whole life would be rededicated to that task. Lend him money so he and Minnie would not go hungry. Himmel, what an idea!

RINGING THE CASH REGISTER

A Day For Dogs

Something unique in community service was performed at Wakeeney, Kansas, recently by Mr. and Mrs. William Bertels, owners of the Wheatland Elevator. A free "dog dunking day" was proclaimed at the elevator. The elevator owners set up a drum full of dip to rid dogs of fleas and ticks. A crew to dunk the town's dogs was called in. Termed a "dog dunking party," the project attracted almost "everyone and his dog" in the community.

No Good in The Office

Stuffers promoting farm products accompany all monthly billings sent out by one operator who says, "We don't believe in keeping this material laying around the office. It won't do us any good there. But in the customer's hands or in his home, we have a sales possibility." Literature is also sent to non-customers by this dealer and every package leaving the store has a stuffer accompanying it. A supply of advertising material and stuffers is also carried in delivery trucks and drivers are instructed to leave copies with every delivery.

Saves Time

Double addressing of statements—that is, on the statement itself and the envelope in which it is to be sent—can be eliminated with window envelopes. It's a time-saver.

New Jersey Experiment Station to Charge $1 For Improved Soil Tests

NEW BRUNSWICK, N.J.—Beginning Jan. 1 a charge of $1 will be made for each soil sample sent or brought to the New Jersey Agricultural Experiment Station for testing, it has been announced by Dr. William H. Martin, director.

For 40 years the station has made these tests for New Jersey farmers and homeowners free of charge, Dr. Martin said. However, several factors have combined to make it impractical to continue this.

The testing of soils is a "service" function and not research. Coupled with this is the fact that the soils department receives funds only for research.

Soil testing has made rapid strides since the early days when the first tests were fairly simple determinations of acidity, lime requirements and soil texture. Samples now are tested for acidity (pH), phosphorus, potassium and magnesium. Where an excess salt problem is suspected, a conductivity test is made. This has increased the expense of soil testing, Dr. Martin said.

Another factor in the decision to establish a fee to support the soil testing laboratory has been the sharp increase in the demand for this service, Dr. Martin pointed out. More than 15,000 samples a year are being currently received at New Brunswick.

Steps are being taken to give an improved soil testing service to the New Jersey public, he said. The testing laboratory will be supervised by a full-time, experienced soil scientist, who will see that each sample is rapidly and accurately analyzed and the results properly interpreted.

The soil testing laboratory will be able to make special tests for such things as available water-holding capacity of the soil, organic matter, content and soil texture at a moderate extra charge.

In some counties, agricultural agents have made pH test to determine liming requirements. The new procedure should not interfere with this service where it is desirable to continue it, Dr. Martin said.

"We do not think that instituting a $1 charge per sample for soil testing will appreciably decrease the demand for this service," the director declared. "Farmers and others have come to recognize the indispensable nature of accurate soil tests in the successful growing of crops and ornamentals."

After Jan. 1, persons desiring to have a soil sample tested will obtain a "soil sample container" for $1 from their county agricultural agent. With this self-addressed, pint-sized soil sample box will go instructions for taking and preparing the sample and an information sheet on the field, lawn or garden from which the sample was taken.

ENTOMOLOGY GRANT

NEW BRUNSWICK—Trubek Laboratories, Inc. of East Rutherford has established a fellowship grant of $2,500 at Rutgers University for basic research in entomology. Acknowledging the gift, Dr. Ordway Starnes, assistant director of the Agricultural Experiment Station, notes that the sponsor placed no restrictions on the manner in which the funds should be used. Dr. Bailey B. Pepper, chairman of the entomology department at the College of Agriculture and Experiment Station, stated that the grant will strengthen his department's work in basic research with insects.

FARM SERVICE DATA
Extension Station Reports

The influence of fertilizer on crop yield, when applied from 12 to 20 inches below the surface of the soil, is now being studied at several locations in West Virginia. The work is being conducted by research agronomists of the West Virginia University Agricultural Experiment Station.

Subsoiling itself is usually beneficial to deep-rooted crops, agronomists say, and adding fertilizer to the subsoil may provide more plant nutrients and encourage the roots to go deeper into the soil. This in turn adds organic matter when the roots decay, and improves aeration and moisture movement.

One aspect of such treatment, still in the theory stage, is that after several years of such practice, the subsoil may become conditioned so that it provides a good crop-growing environment and will not require further annual treatment.

The influence of soil type as related to subsoil fertilization is being studied. Some soil types are unsuitable for physical reasons alone, and many more are unsuitable for other reasons. The agronomists say that on the average farm in West Virginia, only a portion of the cropland will be suitable for subsoiling or subsoil application of fertilizers.

Since nearly all agricultural research must be evaluated in terms of profit and loss, the researchers are watching closely the amount of power and extra work involved in subsoil fertilization. On those farms where subsoil tillage in itself is a common practice, subsoil fertilization will require only an additional attachment to the chisel and the necessary fertilizer. On farms where subsoiling is not usually practiced, such a treatment will probably involve much more expense and time. Pulling a chisel under the soil takes roughly the same amount of power required to pull a two-bottom plow.

At the Reedsville Experiment Farm last year, corn was planted on a field which had been subsoiled and fertilized. Two different soil types were present in the plots, and yield results varied, apparently in relationship to the differences in soil type. In this particular planting, the corn was seeded right after the chiseling, with no additional tillage. At the Reymann Memorial Experimental Farms at Wardensville, the deep tillage fertilization research has been conducted with legumes and corn.

★

Small amounts of borax will prevent "black spot" or "dry rot" in beets grown for processing, according to Charles B. Sayre, Cornell vegetable crops specialist, at the experiment station at Geneva, N.Y.

So little is needed, however, that it is difficult to apply it uniformly over a field unless it is mixed with a commercial fertilizer as fertilizer borate, explains Mr. Sayre.

Black spot or dry rot is especially likely to occur on alkaline soils or soils that have been limed recently, continues the Station scientist. Boron is less available to beets on such soils because the lime forms an insoluble compound with it, he says.

"The amount of borax to apply per acre depends on the alkalinity of the soil," advises Mr. Sayre. "Soil with a pH above 7 should receive the equivalent of 50 lb. per acre. On slightly acid soils with a pH of 6 to 6.5, the equivalent of 20 to 30 lb. is called for. But not over 10 lb. per acre of fertilizer borate should be used on acid soils unless lime is first applied."

In severe cases of boron deficiency large parts of the beet turn black. In mild cases, the trouble may not be discovered until the beets are cut. For that reason, canning factory field men may cut into a few beets on higher, dried parts of a field where the trouble is most likely to occur.

"Even where only an occasional beet is found damaged by boron deficiency, however, the entire field may be discarded by the processor," says Mr. Sayre.

★

The Naugatuck Chemical Division, United States Rubber Co., has announced that it has discovered a new, safe way to stop ponds from turning green with algae during the summer. The firm reports that after four years of country-wide testing, it has found that a fungicide it has been supplying to fruit and vegetable growers is also an effective and economical algicide. The fungicide is Phygon-XL, known chemically as 2,3-dichloro-1 napthoquinone, or dichlone.

The chemical is capable of holding down the growth, or killing, several types of algae and also some water weeds. If used when water temperatures are above 65° Fahrenheit, and according to recommendations, it will not harm fish, the firm reports.

In state-wide tests in New Jersey last season the chemical controlled the growth of water milfoil, a submersed weed and the state's major water weed problem. A single application of the chemical held down milfoil growth for the season. It is being recommended to the state's pond owners this year on a trial basis, and it is the first chemical suggested for this use.

Relatively small amounts of Phygon-XL are needed to keep algae growth down. Blue-green algae can be controlled with ½ to 1 lb. of the chemical for each acre of pond surface. On green algae 4 to 5 lb. are used per acre. Water milfoil, a submersed weed, requires 15 pounds per acre, and in this case only half the pond should be treated at one time.

★

Planned farming provided a dozen dairymen on family-sized Franklin County, Vermont farms with a bonus of nearly $2,000 each.

Thinking about their farm business and making simple changes to improve their farming enabled these farmers to make a better living during a six-year study by the Vermont Agricultural Experiment Station and Harvard University.

Dr. Raymond H. Tremblay, Vermont Experiment Station associate agricultural economist, explains, "Farm planning or, as we prefer to call it in Vermont, 'farm and home counseling' is an educational method for helping farm families make the best use of their resources in reaching goals they set for themselves. Our objective is to help farm families learn how to make farm and home decisions.

"These decisions should consider all of the resources of the farm and family and lead to the greatest family satisfaction.

"On many dairy farms better techniques in growing and harvesting feed and in using labor—the two biggest cost items—and improved livestock management practices offer the best chances for reducing costs.

"Dairy farming in Vermont is a reasonably standardized balance between size of business, quality of production, labor efficiency and capital investment. When any one or more of these are out of line with accepted standards, we can expect the operating family to be in more or less difficulty."

★

Poison ivy and poison oak can be completely eradicated by the proper use of chemicals, research foresters of the West Virginia University Agricultural Experiment Station say. They find that proper weather conditions before and during treatment and proper application are quite important in the successful eradication of the two plants.

Brushkiller, 2,4,5-T, and ammate are chemicals that may be used, and are completely effective when used according to the manufacturer's directions, the researchers say. The foresters have found that following directions as to solution strength and amount of application is especially necessary.

Foliage sprays have proved to be most effective during dry weather. Best results will be obtained when the plants are sprayed after a period of several dry days. Rain during the first four to six hours after spraying reduces the amount of kill, since the herbicide must dry on the leaf for this period in order to be absorbed into the stem and move on down into the roots. Rain will wash the poison off.

If too much of the herbicide is applied, the kill will be limited, the researchers say. Too much herbicide kills the foliage quickly, and the chemical does not have a chance to move down into the roots. The root remains alive when this happens, and soon puts out another sprout and again the plant is a hazard.

The Experiment Station foresters obtain the best results when the spray is applied in a mist-like application in which no liquid runs from the leaf. The leaf surface should not be soaked. Proper application of the chemical, with good luck as far as weather is concerned, should make the killing of poison oak and poison ivy possible with only one spraying.

Nitrogen Exports Show Gain, But Value Dips

WASHINGTON—Exports of nitrogenous fertilizer materials during April totaled 158,427,000 lb., valued at $4 million, compared with exports of 153,030,000 lb., valued at $4.4 million, in April a year ago, according to the Bureau of the Census. Exports in March totaled 237,863,000 lb., valued at $6 million.

. . . for richer sales fields . . . this Fall!

MEMO

TO: Advertisers to the Fertilizer Industry

SUBJECT: CROPLIFE's Fall Fertilization Special Issue of July 23

Every advertiser interested in the fertilizer industry has a big stake in the promotion of fall fertilization. CROPLIFE, the only weekly newspaper serving the agricultural chemical industry, will publish a special **"FALL FERTILIZATION" issue**—July 23, 1956—which will editorially feature this important subject, and provide an unprecedented opportunity to place before the industry and midwest dealers **your advertising message!**

Here's a capsule preview of this special issue:

Fall Fertilization: discussion of economic advantages and agronomic aspects involved in fall application . . . of problems faced by industry in trying to manufacture and store adequate amounts of plant food materials and then attempting to deliver year's output in brief spring period . . . photos showing spring jam of trucks and farmers "fighting" for supplies of fertilizer . . . plus tie-in editorial comment on wastefulness of this buying pattern . . . a graphic presentation of Dr. Firman E. Bear's map showing areas where soil is adaptable to fertilizer application in the fall.

Agronomists Express Viewpoints: statements of college and industry agronomists on fall fertilization.

Directory of Available Sales Helps: special section of July 23 CROPLIFE will feature an illustrated "catalog" of sales aids available to dealers from fertilizer suppliers . . . descriptions of materials geared to help dealers promote fall application of fertilizers . . . sources of newspaper ad mats, store banners, window decals, mailing pieces, counter displays and allied point-of-sale material.

Question-and-Answer Feature: dealer-readers of the July 23 CROPLIFE will find accurate replies to questions and/or objections of farmers on fall fertilization in a comprehensive "question-and-answer" page.

How One Dealer's Idea Clicked: one of the highlights of CROPLIFE's "Fall Fertilization" issue will be an attention-compelling article—a true "success story"—of the unique ways a Midwest dealer promoted sale and application of fertilizer during fall months.

Plan your advertising now for CROPLIFE's special "FALL FERTILIZATION" issue! An unusual opportunity to tie-in with great news and feature coverage of a timely and important subject. Contact your nearest CROPLIFE office for complete details and any service our sales representatives can offer.

DATE OF ISSUE: **July 23, 1956**

NEW YORK
551 Fifth Ave.
MUrray Hill 2-2185

CHICAGO
2272 Board of Trade Bldg.
HArrison 7-4782

Croplife

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NBP Member of National Business Publications

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FEderal 2-0575

KANSAS CITY
612 Board of Trade Bldg.
Victor 2-1350

NEW ENGLAND NEWS NOTES

Firecrackercides, Early Peas, Weather Warnings on Northeastern Farm Scene

By GUY LIVINGSTON
Croplife Special Writer

A new state law has been passed in Massachusetts authorizing the use of firecrackers for the control of damage to crops by birds.

The bill, now in effect, reads in part: "Section 39 of Chapter 148 of the General Laws, as amended by Section 1 of Chapter 291 of the Acts of 1943, is hereby further amended by inserting after the word 'firearms' in line 47, the following: Or (9) to farmers and fruitgrowers who, having obtained permit under Section 13 of Chapter 48, use firecrackers for the control of damage to their crops by birds."

Section 13 of Chapter 48 is concerned with the permit necessary for the building of fires in the open. All that is required is a telephone call to local fire chiefs or wardens, who will make a record of need for the use of firecrackers and can grant immediate permission to use them, Wesley R. Jones, assistant district agent for the Fish and Wildlife Service at the University of Massachusetts, said. The service has a free leaflet, No. 365, "The Rope Firecracker—A Device to Protect Crops from Bird Damage."

Early Peas

Chester C. Burrill, 77-year-old farmer up in Scarborough, Maine, said he would have fresh peas on the table by July 4, despite the cold spring weather, and it was a hard row, but he did it. He had to dig through snow, ice and mud to plant his peas on April 22 and it wasn't easy. He used a snow shovel to reach ice which came off in three foot sheets. Then it took a week for the soil to thaw for planting.

Radar Meteorology

Radar meteorology will give New England greatly improved protection against being caught unaware by tornadoes, hurricanes, lightning storms and blizzards, it was predicted by Dr. Myron G. H. Ligda, Texan meteorologist. Within five years, the U.S. Weather Bureau will have access to radar meteorology information about rain, snow flakes, hailstones and lightning that will give the public ample time to prepare for a storm's coming, he foresaw.

"When the system is set up, there should never again be a repeat of the death toll the Worcester tornado took because of lack of warning," he said. The new method developed by Dr. Ligda photographs radar "echoes" from storms. One photograph alone can give vital information on storms in an area approximately the size of Ohio.

Greenhouse Tomatoes

Massachusetts growers have met the demand for a quality early season tomato by producing greenhouse varieties, developed with the consumer in mind, and currently representing a $1,000,000 a year business. Research and growers joined hands to come up with the greenhouse tomato varieties to meet consumer demand for a quality, tasty product during the season prior to the availability of outside tomatoes.

Varieties were developed at the University of Massachusetts Field Station at Waltham. All growers are producing tomatoes developed in the plant breeding program there. Two of the most popular varieties are Waltham Forcing and Waltham Hybrid.

A small group of growers now are using nearly 1½ million square feet in greenhouses to produce their crop. The industry is centered in the eastern counties of the state with Middlesex being the largest single producer. About 100% of New Engiand's greenhouse tomatoes are grown in Massachusetts and the Bay State is the largest producer of such tomatoes on the Eastern Seaboard. These tomatoes continue from May through July and a second crop is available again in the fall, from October until January.

Flood Control

A total of $20,100,000 would be spent for regional flood control, hurricane protection, navigation and erosion projects under proposals made at the New England Region of the National Rivers and Harbors Congress. The proposals were contained in a multi-parts resolution passed at the windup of the fifth semi-annual conference in the Sheraton Plaza Hotel, Boston, attended by 1,500 persons.

All proposed expenditures were for the fiscal year starting July 1, 1957. Last year floods took 200 lives in the northeastern U.S. and caused millions of dollars damage. The resolution asked that at least $12,000,000 be requested immediately for a regional flood control program. It also requested:

$1,000,000 for a study of hurricane protection in the New England coastal area: $3,000,000 for navigation and beach erosion projects; $100,000 for studies and special investigations, and $4,000,000 for maintenance of existing flood control reservoirs and channel and harbor projects.

The resolution endorsed a bill sponsored by Sen. Prescott Bush (R., Conn.). It said it is "urgently required to advance need protection from floods in the New England region." Passage of this bill would increase from $150,000 to $300,000 the amount engineers would have discretion to use on the individual projects.

The resolution described proposed flood control projects for the Narragansett Bay area and New Bedford-Fairhaven area as "essential to local and national welfare." It asked that the applications be reclassified and endorsed Classification 1, as soon as construction costs are available. The resolution said New England lies in the pathway of tropical hurricanes and floods, which are a recognized threat to the region.

Lack of Foresight Charged

If Connecticut communities 10 years ago had approved the flood prevention plans they seek now, last year's flood damage would have been cut by millions, William S. Wise, director of the Connecticut State Water Commission, said in a prepared speech at the third annual Conference on Conservation of the Connecticut River Watershed Council, Inc.

"The floods of last August and October have radically changed the attitude of our people," he said. "Ten years ago the residents of the Naugatuck River Valley opposed the construction of a flood control dam, which if built would have reduced damages in that valley last fall alone of $90,000,000—today they are clamoring for its immediate construction regardless of cost. Not one municipality has availed itself of a 10-year-old law permitting the regulation of stream enroachments and obstructions—today they are demanding immediate action by the state.

"For 15 years the Legislature failed to provide funds for adequate inspection of dams—today they expect superhuman accomplishments from an understaffed board."

Lawrence Mahar, U.S. Weather Bureau forecaster and chief meteorologist at Bradley Field, Windsor Locks, Conn., outlined the river forecasting and warning system recently adopted by Connecticut, Rhode Island, Massachusetts, Vermont and New Hampshire.

The plans are to have a set up warning communities of any threat from heavy rains and floods. The weather bureau will determine the height of the flood stage and other factors necessary to alert persons and industries along the streams to take protective steps.

Brig. Gen. Robert J. Fleming, Jr., of the U.S. Army Engineer Corps., told the delegates the Connecticut River basin has had four major floods in the last 30 years in which 74 lives were lost and damage totaled $231,351,000. Flood protective measures include, he said, improvement of river channels by dredging so that capacity to carry flow is increased; construction of dikes and walls to protect a specific area from high water; and construction of reservoirs where floodwaters can be stored until downstream channels can safely carry water without flooding.

Gen. Fleming said flood walls and dikes have proven in many instances to be most economical and least controversial.

Construction of up-stream reservoirs materially benefits downstream areas since they provide protection for agriculture and other lands as well as the major damage centers. He also emphasized the importance of flood plan zoning. The state should take measures, he said, to prohibit redevelopment of many of the areas which have a severe flood history.

Economist Retires

Roy E. Moser, extension economist in farm management at the University of Massachusetts since Sept. 1931, has retired. Mr. Moser was on sick leave since suffering a cerebral thrombosis attack about a year ago. He had spent more than 35 years in Extension Service work, starting as a county agricultural agent in Jefferson County, Ohio, Steubenville, in July of 1920. As farm management specialist in Massachusetts, Mr. Moser originated or carried out many projects and programs of economic benefit to Bay State farmers.

Joins Eastern States

G. O. Oleson, extension communications specialist at the University of Massachusetts for the last 30 years, has retired and joined the advertising staff of Eastern States Farmers' Exchange, West Springfield.

In his new work, Mr. Oleson will be employed in the field of mass communications as assistant to Walter Ellis, who was recently made manager of advertising service for Eastern States. A graduate of the University of Wisconsin with a master's degree in agricultural journalism, Mr. Oleson joined the cooperative extension service staff at the University of Massachusetts in 1926.

Sulfur Production

WASHINGTON—The domestic sulfur industry produced 504,289 long tons of native sulfur and 36,200 tons of recovered sulfur (of a purity of 97% or greater) during April, according to reports of producers to the Bureau of Mines, U.S. Department of the Interior. Producers' stocks of native sulfur increased slightly over the previous month and at the end of April totaled 3,240,373 tons.

SEED SPECIALIST

LARAMIE, WYO. — Robert F. Frary, Wyoming University agricultural economics graduate assistant, has been named seed-marketing specialist in the Wyoming Agricultural Extension Service. He replaces Charles E. Allen, who becomes extension agronomist.

WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

Utilizing all the potentials of liquefied barnyard manure can make a farm almost "self sufficient," according to a recent article in the "CIL Agricultural News." Liquefied manure can help grow crops, heat farm buildings in winter and provide fuel for the tractor, is the claim of Fritz Allmen, one of Canada's foremost farmer authorities on manure.

In a recent demonstration attended by leading Canadian agricultural scientists, he showed what has already been done to his own 480 acre farm near the historic Quebec village of Carillon on the banks of the Ottawa River, and revealed his future plans for the barnyard by-products.

Mr. Allmen, who emigrated from Switzerland many years ago, has 80 head of Holsteins. His manure liquefying equipment consists of a 3,000-gallon concrete tank beneath the barn floor, two upright concrete 35,000-gallon storage tanks, which he calls "silos" behind the barn, and a 30-horsepower gasoline motor which operates a speed pump.

Liquid and solid manure mixed up with cut straw bedding is shoveled daily into the receiving tank through manholes located in the middle of each concrete gutter. Gutters are sprinkled with superphosphate at the rate of one and a half pound of superphosphate per cow per day. This absorbs ammonia, hastens the bacterial action during the decomposition process, increases the nutritive value of the manure and helps reduce manure odor, he says.

Through rapid circulation in the first tank, the manure is liquefied through bacterial action then pumped into the silos where it is allowed to "cure" for several days. When the curing process is complete, the liquid manure is pumped into the 1,000-gallon tank of a tractor-drawn sprayer. It requires only a minute and a half to fill the tank. The manure is sprayed on the fields in an even swath 12 feet wide on one side of the tractor. It takes only 10 minutes to apply 1,000 gallons. Application rate is about five tons per acre.

During winter, Mr. Allmen sprays the manure right on the snow, his tractor being equipped with special caterpillar chain treads to enable it to get around in the deep snow.

"This operation really reduces labor costs," Mr. Allmen said. "Where once it required 30 hours of manure handling per cow per year, it now takes me only five to six hours to handle the same amount."

But the greatest dividend in using liquefied manure, Mr. Allmen found, was the saving of the large amounts of plant nutrients which are lost through regular handling methods: u to 50% is his estimate, the total valu of which, he says is $170,000,000 year in all of Canada. His method ha resulted in a 25% yield increase i forage and other crops.

Very soon this enterprising Quebe farmer proposes to collect the meth ane gas which is given off during de composition of the organic matter i manure. He claims this will cook hi meals, heat his home all year round and provide fuel for his tractor. Fo the latter, the methane gas is com pressed to six atmospheres in propan gas-type cylinders and fed into th carburetor through a special attach ment. Manure from his 80 head o cattle can generate more methane ga than he would normally need. The extra profits from increased yield and the saving in labor, heating an tractor fuel costs, will pay back th investment on his installation in fiv years, he claims.

Irrigation Has Limited Place on Iowa Farms, Agronomist Says

AMES, IOWA—Farmers on sandy soils can expect a modest profit from irrigating field crops—but there's insufficient water for irrigation on most uplands in Iowa. William Shrader, agronomist, summed up irrigation prospects in Iowa in that way for farmers attending the annual Agronomy Field Day at Iowa State College.

He said previous tests on sandy soil have shown a five-year average yield increase of 33 bu. per acre. Two years of tests on soils of high water-holding capacity have resulted in an average yield boost of 20 bu. per acre.

Figuring $30 an acre as a fair average cost figure for investment in and operation of irrigation equipment, Mr. Shrader said, it is questionable if the 20 bu. increase would pay. But he expressed the opinion that the 33 bu. response would return some profit.

Irrigation plots at Ames were inspected by field day visitors. Irrigated corn showed a marked growth advantage over plants receiving moisture just from rainfall.

Aphid Not Troublesome In Nevada Valley

LAS VEGAS, NEV.—Farmers in the isolated Moapa Valley have their fingers crossed in regard to the alfalfa aphid. The insect invaded the alfalfa field about two years ago and kept up a brave fight against insecticides for awhile. Now for some unknown reason farmers are not being bothered with it.

"It's just one of those strange quirks in the insect world," said William Hoff, county agent. "We had a light infestation the first cutting and farmers sprayed once. Since then we haven't seen any aphids, but we expect they'll be back either this year or next."

Mr. Hoff says the valley is gradually increasing the amount of fertilizer used. The area is low in both phosphorus and nitrogen and has responded quite well to commercial fertilizer.

Harold Mazza Named To Research Post by American Potash

LOS ANGELES — Harold Mazza has been appointed to the newly-established position of manager, research, at American Potash & Chemical Corp.'s Los Angeles plant, according to an announcement by Joseph C. Schumacher, vice president in charge of research.

Mr. Mazza previously was assistant director of research at the company's main plant at Trona, Cal., since October, 1954. In his new position, he will be in charge of research work on new process development and technical service at the Los Angeles facility.

FOR HIGHER ANALYSIS . . .

Fertilizer Manufacture Now a Series of Intricate Chemical Processing Steps

Editor's Note

This article is a summary of a talk, "Trends in Processing of Mixed Fertilizers" made at Pensacola, Fla. on June 1, by Dr. John O. Hardesty, U.S. Department of Agriculture, Beltsville, Md. Occasion of the talk was a meeting of fertilizer industry personnel under the auspices of Escambia Bay Chemical Corp., Pensacola, and Ashcraft-Wilkinson Co., Atlanta, Ga., distributors for Escambia Bay products.

Only a few years ago the production of mixed fertilizers in the United States was generally recognized as chiefly a mixing operation. Ammoniation in excess of 3 lb. ammonia per unit of P_2O_5 was not widely practiced because the processing conditions were conducive to loss of available P_2O_5 during subsequent curing. Only small amounts of highly-soluble salts were ordinarily used in mixtures. Sulfuric and phosphoric acids did not appear in the formula. Processing equipment for granulation and drying of mixtures was used but little.

Today, however, the production of mixed fertilizers is rapidly becoming recognized as a chemical process, with the use of as much as 6 lb. ammonia per unit of P_2O_5. Sulfuric or phosphoric acid is used to react with excess ammonia and product heat of chemical reaction which gives temperatures sometimes in excess of 212° F. Large amounts of highly-soluble salts, such as ammonium nitrate, are incorporated in many mixtures.

Improved equipment for ammoniation, granulation, drying, cooling, and general processing is being installed in many fertilizer plants. Mixed fertilizer producers, chemists, chemical engineers, and machinery manufacturers are giving increasing attention to the manufacture of mixed fertilizers as a series of chemical processing steps.

Three important factors that have helped bring about these changes in processing methods are (1) the much greater production of concentrated materials which permits increasing the total nutrient content of mixed fertilizers, (2) the need for improvement in the storage and drilling properties of the high-analysis mixtures, and (3) the development and utilization of equipment for production of granular products.

The total concentration of primary nutrients in mixed fertilizers rose from about 21% in 1943-44 to nearly 28% in 1955-56. Many of the higher-analysis mixtures have room in the formula for no more than 5% of filler, liming material, or conditioning agent. Pending adoption of adequate liming programs, it is generally recognized that the incorporation of sufficient liming materials to render mixtures non-acid forming serves a useful purpose in some parts of the country, notably the South and Southeast.

However, the results of a survey of mixed fertilizers marketed in the U.S. in 1949-50 have indicated that the total cost to the farmer of acid-insoluble material and limestone in mixtures was more than 22 million dollars, or $1.83 per ton of mixture. Reduction in the use of liming materials in mixed fertilizer would permit the manufacture of higher analysis products and would decrease the unit cost of plant food to the farmer.

It would also make possible the incorporation by the manufacturer of large proportions of low-cost nitrogen in his products. Such mixtures containing large proportions of highly soluble, hygroscopic salts are likely to absorb moisture and cake unless they are well-conditioned and packaged in high-grade, moisture-resistant bags.

Pile curing of mixtures prior to bagging has long been used as a method of improving the storage properties and drillability of the product. But the conditions which enhance rapid and satisfactory curing, such as a relatively high moisture content, finely-divided ingredients, and high mechanical pressure for close packing in the pile, are diametrically opposed to the conditions that enhance satisfactory storage and drilling properties of the bagged product. Thus, curing does not always give a product having satisfactory physical condition.

Experimental evidence and commercial experience have indicated that conventional conditioning agents will alleviate caking to some degree but will not prevent it under all conditions of manufacture and storage. Granulation has been adopted as the most satisfactory way of improving the storage properties and drillability of mixed fertilizers, and the products are easily conditioned with coating agents.

The granulation process may include the operations of mixing solids with liquids such as water, ammoniating solutions, and sulfuric or phosphoric acids,—agglomeration, drying, cooling, sizing, and the recycling of undersize material to the initial stages of the process. In contrast to the conventional mixing procedure, this type of processing promotes rapid chemical reaction among the ingredients of the mixture, allows the use of sulfuric and phosphoric acids for neutralization of ammonia in excess of that required to react with the superphosphate present in the mixture, and provides heat of chemical reaction, which is often sufficient to dry the product to a sufficiently low moisture content for good physical condition.

Kenneth B. Nash

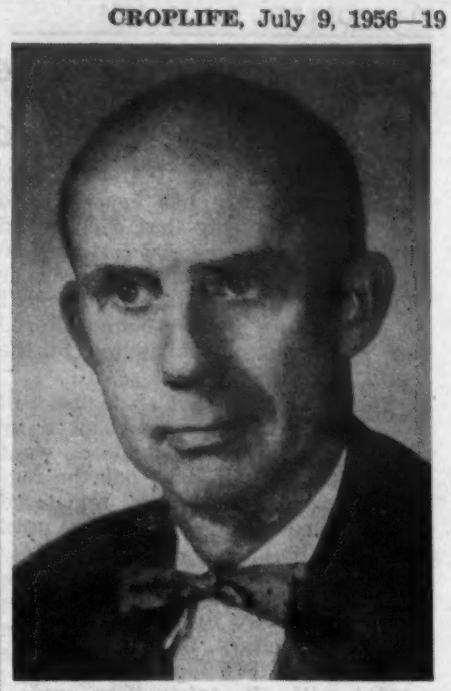
Appointments Announced By Insecticide Division Of Olin Mathieson

NEW YORK — Expansion of the technical service department of the insecticide division of Olin Mathieson Chemical Corp. and the appointment of a manager of the western sales district have been announced by R. J. Zipse, general manager of the division.

The division, which has headquarters in Baltimore, has expanded its technical service department to incorporate responsibilities formerly handled in the market development department.

Kenneth B. Nash, former manager of technical service, will now head the combined department, which will continue development and technical service work on products of the division as well as the regular technical field service work.

A graduate in entomology at the University of Maine, Mr. Nash did graduate work at Cornell University from 1936 to 1941. After three years as a research entomologist with Rohm & Haas Co. he joined John Powell & Co. in 1945. He established the technical service department and continued as its head when the Powell company became part of Olin Mathieson in 1954.



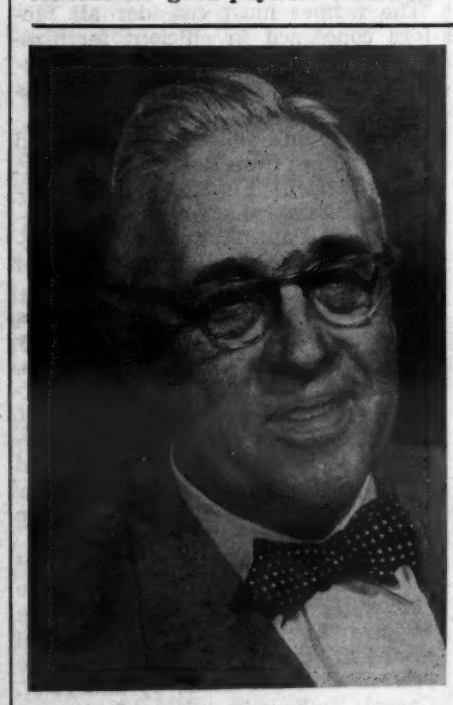
W. B. Jordan

W. B. Jordan, formerly head of market development, is now manager of the western sales district of the insecticide division with headquarters at Fresno, Cal.

A graduate of the University of Delaware in horticulture and entomology, Mr. Jordan also was a graduate student at the University of California and Stanford University. Prior to joining Olin Mathieson, he was entomologist and technical representative for other leading pesticide manufacturers in California.

In addition to a plant and sales offices of the insecticide division, Fresno is the location of the plant food division's Ammo-Phos and irrigation warehouse and sales office.

The appointment of a full-time sales manager in California is an expansion of the western sales district made necessary by the growth of the company's sales of its pesticide products including Terraclor, a new soil fungicide, and Phytomycin, a new liquid antibiotic, the firm states. Olin Mathieson produces liquids and powdered concentrates at Fresno and inventories there both synergized pyrethrum concentrates and pyrethrum extracts.



Daniel S. Dinsmoor

Daniel S. Dinsmoor, Joseph C. Schumacher In New AP&CC Posts

LOS ANGELES—Peter Colefax, president of American Potash & Chemical Corp., announced recently that Daniel S. Dinsmoor has been named vice president in charge of planning and development for the company, and Joseph C. Schumacher has been elevated to vice president in charge of research.

Mr. Dinsmoor previously was vice president in charge of research and development.

Mr. Colefax said the planning function has been established to centralize developmental planning and to facilitate policy decisions "with respect to broadened fields of activtiy." At the same time, research functions at AP&CC's Trona, Whittier and Los Angeles, Cal., and Henderson, Nev., installations will be centered in a new department, under Mr. Schumacher.

Joseph C. Schumacher

Mr. Schumacher has a long record in research chemistry. Following his education in chemistry at the University of Illinois and the University of Southern California, he started with Carus Chemical Co. in LaSalle, Ill. From 1941 to 1954, he was with Western Electrochemical Co., where he developed many of its processes and products. He joined American Potash & Chemical Corp. in 1954.

Chemicals Help in Alfalfa Aphid Control, Entomologist Reports

SAN FRANCISCO—Chemical warfare against the spotted alfalfa aphid has helped to reduce possible crop loss or damage from this insect, Stewart Lockwood, assistant chief of entomology of the California State Department of Agriculture, reported in an address to the recent convention of the California Creamery Operators Assn.

Among the chemicals which have been used are phosphate sprays, parathion at two to four ounces per acre, and malathion at eight to 12 oz. an acre. Some growers used systox at two to four ounces per acre and others applied sulphur and toxaphene to alfalfa seed crops, Mr. Lockwood said.

Combatting the aphid is important to dairymen because spread of the insect increases the cost of producing milk. Mr. Lockwood estimated that the loss last year from the aphid was about 8% of the total seed and feed production from alfalfa crops—a $12,851,000 loss, for the crop valued at $151,721,000.

Thirty two counties were infested, but only the southern counties were seriously infested by the aphid, and loss from the pest declined from the previous year, in part due to chemical applications.

New Pennsylvania Fertilizer Law Requires Registration, Calls for Severe Penalties

HARRISBURG, PA.—Pennsylvania's legislature has enacted into law a bill requiring that each brand and grade of commercial fertilizer be registered by the manufacturer or importer with the state department of agriculture before being offered for sale, sold or distributed in the state.

The measure, listed as House Bill No. 1977 and which was backed by Gov. Leader's administration, went into effect July 1, 1956, but the registrations of fertilizers registered prior thereto will not expire until June 30, 1957.

Registration applications, on forms furnished by the state agriculture secretary, must be accompanied by a $15 fee, the act provides, with all registrations expiring on June 30 of each year.

Information on the application shall include a guaranteed analysis showing the minimum percentage of plant food claimed as to nitrogen, available phosphoric acid, and soluble potash.

"Unacidulated mineral phosphatic materials and basic slag," the act stipulates, "shall be guaranteed as to both total and available phosphoric acid and the degree of fineness. In the case of bone tankage and other natural organic phosphate materials only the total phosphoric acid need be guaranteed. Additional plant food elements determinable by chemical methods may be guaranteed only by permission of the secretary by and with the advice of the Director of the Agricultural Experiment Station. When any such additional plant foods are claimed they shall be included in the guarantee and shall be subject to inspection and analysis in accordance with the methods and regulations that may be prescribed by the secretary. The secretary may permit the potential basicity or acidity (expressed in terms of calcium carbonate equivalent in multiples of 100 lb. per ton) to be registered and guaranteed."

Any commercial fertilizer offered for sale or sold or distributed in the state in bags, barrels or other containers will be required to have placed on or affixed to the container in written or printed form the net weight and the guaranteed analysis data required by the act. If distributed in bulk, a written or printed statement of the same information must accompany delivery and be supplied to the purchaser.

A section of the act on inspection fee reports provides: "There shall be paid to the secretary for all commercial fertilizers offered for sale, sold or distributed in this state an inspection fee at the rate of two cents ($.02) per ton. Inspection fees shall not be paid for sales to manufacturers or exchanges between them. Fees so collected shall be placed in a fund for the payment of the costs of inspection, sampling and analysis and other expenses necessary for the administration of this act and other acts specified by the general assembly. Said fund shall be known as the feed and fertilizer fund."

"Every manufacturer or importer of commercial fertilizer in this state," the act provides, "shall file not later than the last day of January and July of each year a semi-annual statement setting forth the number of net tons of commercial fertilizer distributed in this state during the preceding six months' period and upon filing such statement shall pay the inspection fee at the rate stated. . . ."

As to inspection sampling analysis, the act says: "It shall be the duty of the secretary to sample, inspect, make analysis of and test commercial fertilizers distributed within this state at times and places and to such an extent as he may deem necessary to determine whether such commercial fertilizers are in compliance with the provisions of this act. The secretary may enter upon any public or private premises during regular business hours in order to have access to commercial fertilizers subject to the provisions of this act and the rules and regulations pertaining thereto."

"If the analysis shows that any commercial fertilizer falls short of the guaranteed analysis in any one ingredient a penalty shall be assessed by the secretary against the manufacturer in accordance with the following:

"1—Total Nitrogen. A penalty of three times the value of the deficiency if such deficiency is in excess of two tenths of one percent on goods that are guaranteed 2%; twenty five one hundredths of one percent on goods that are guaranteed 3%; thirty five one hundredths of one percent on goods that are guaranteed 4%; four tenths of one percent on goods that are guaranteeds 5% up to and including 8%; five tenths of one percent on goods guaranteed above 8% up to and including 30%, and seventy five one hundredths of one percent on goods guaranteed over 30%.

"2—Available Phosphoric Acid. A penalty of three times the value of the deficiency if such deficiency exceeds four tenths of one percent on goods that are guaranteed up to and including 10%; five tenths of one percent on goods that are guaranteed above 10% up to and including 25%, and seventy five one hundredths of one percent on goods guaranteed over 25%.

"3—Soluble Potash. A penalty of three times the value of the deficiency if such deficiency is in excess of two tenths of one percent on goods that are guaranteed 2%; three tenths of one percent on goods that are guaranteed 3%; four tenths of one percent on goods guaranteed four percent; five tenths of one percent on goods guaranteed above four percent up to and including 8%; six tenths of one percent on goods guaranteed above 8% up to and including 20%, and one percent on goods guaranteed over 20%.

"4—Deficiencies in any other constituent except those covered under this section which the registrant is required to or may guarantee shall be evaluated by the secretary and penalties therefor shall be prescribed by the secretary.

"All penalties assessed under this section shall be paid to the purchaser of the lot of commercial fertilizer represented by the sample analyzed within three months after the date of notice from the secretary to the registrant and receipts evidencing payment shall be promptly forwarded to the secretary by the registrant. If said purchaser cannot be found the amount of the penalty shall be paid to the state treasurer who shall deposit the same into the general fund."

For the purpose of determining the commercial values to be applied under the provisions of the above section, the act requires the agriculture secretary to determine and publish annually the values per pound of nitrogen phosphoric acid and potash in commercial fertilizer in Pennsylvania. The values so determined and published will be used in determining and assessing penalties.

A section of the act on minimum plant nutrient content provides: "No superphosphate containing less than 18% available phosphoric acid, nor any mixed fertilizer in which the sum of the guarantees for the nitrogen available phosphoric acid and soluble potash totals less than 20%, shall be distributed in this state except for complete fertilizers containing 25% or more of their nitrogen in water-insoluble form of plant or animal origin, in which case the total nitrogen available phosphoric acid and soluble potash shall not total less than 18%. The provisions of this section shall not apply to specialty fertilizers nor to any fertilizer materials in which the sources of nitrogen available phosphoric acid and soluble potash are derived solely from organic materials."

The agriculture secretary is empowered by the act to cancel the registration of any brand of commercial fertilizer or to refuse to register any brand of commercial fertilizer "upon satisfactory evidence that the registrant has used fraudulent or deceptive practices in the evasions or attempted evasions of the provisions of this act or any rules and regulations promulgated thereunder. No registration shall be revoked or refused until the registrant has been given the opportunity to appear for a hearing by the secretary."

Violations of the act would be punishable by a fine of $50 to $100 or up to 30 days in jail for first or second offenses. Penalties for subsequent convictions would be a fine of $500 or $1,000 or up to one year in jail, or both.

DELMARVA

(Continued from page 1)

soil and the crop to be grown in making fertilizer recommendations, pointing out how different crops have different requirements.

In connection with the soil test, he said that it should be used as an aid in determining fertility level and fertilizer needs, "but not as the sole factor in making fertilizer recommendations."

Dr. Dunton further counselled the fertilizer men to consider the economic conditions generally and on the individual farm in order to make good fertilizer recommendations. "The farmer must consider all factors concerned in efficient fertilization if he expects to compete successfully and stay in the business today," Dr. Dunton concluded.

Dr. Dunton's address was preceded by a greeting from Robert A. Fischer, Milford (Del.) Fertilizer Co., president of the association, and brief remarks by Paul T. Truitt, Washington, D.C., executive vice president of the National Plant Food Institute.

Mr. Truitt told the representatives of the fertilizer industry that they could "look forward to what is, without any doubt, a very bright future." He stated that "the output must go up and the imput of fertilizer must increase." He further noted that the states were improving their laws and saw no "threats" on the federal legislative horizon.

Professor Claude E. Phillips, head of the agronomy department of the University of Delaware, received a 14 karat inscribed gold watch as an award to "the man of the year." The presentation was made by Elbert N. Carvel, Valliant Fertilizer Co., Laurel, Del., former governor of Delaware, for the "greatest contribution to agriculture in the tri-state area in 1955."

Many representatives of the state universities and fertilizer control officials were present at the meeting and were introduced by Dallas D. Culver, Huston, Culver & Co., Seaford, Del.

The one-day meeting concluded with a cocktail party and dinner-dance in the roof garden of the hotel.

NEW ACETO OFFICE

NEW YORK—Aceto Chemical Co., Inc., of Flushing, N.Y., has announced the opening of a West Coast office. The new facilities are at 6850 Tujunga Ave., N. Hollywood, Cal.

Anthony E. Cascino

Anthony E. Cascino Named Director of Marketing for IMC

CHICAGO — Anthony E. Cascino has been appointed to the newly created post of director of marketing for International Minerals & Chemical Corp.

In establishing the new post and announcing the appointment of Mr. Cascino, Thomas M. Ware, International's administrative vice president, emphasized the importance of coordinating the marketing activity of each of the company's six product divisions. He said that Mr. Cascino's new responsibilities would be to effect such coordination in the areas of advertising, sales, merchandising and marketing research.

Before coming to International, Mr. Cascino served as director of marketing for the Crosley and Bendix Divisions of AVCO Manufacturing Co. for a period of three years. From 1949 through 1953 he held a similar position with Bendix Home Appliances Inc.

A native of Chicago, he received a bachelor's degree in economics at Illinois Institute of Technology and a master's degree in that subject at Northwestern University. He taught economics at Northwestern and at Ripon College, Wis. He was chief economist of the durable goods branch of the Office of Price Administration in Washington, D.C. during 1945.

Mr. Cascino has published many articles in trade and business publications and recently collaborated on two books—"Marketing Channels in American Industry" and "Market Research Pays Off."

IOWA HOPPERS

(Continued from page 1)

aside for this type of need became available on July 1, Dr. Harris said, but the entire amount was used in a single day. Spraying has been done by the state along highways, primary roads and county roads in an effort to kill most of the insects before they entered fields of valuable crops.

Farmers and entomologists on July 5 were hoping that the rains would provide enough green foliage along roadsides and in ditches, to hold the 'hoppers until new appropriations make a larger spraying operation possible.

Dieldrin is being used on roadside operations, Dr. Harris said, but other pesticides are also playing a prominent part in the program. These include toxaphene, heptachlor, aldrin, malathion, lindane and methoxychlor. The latter three are being recommended for use in gardens and yards, Dr. Harris said.

NORTHWEST MEETING

(Continued from page 1)

"mere trickle," into over a quarter million samples during the year of 1955. During the same period, he said, fertilizer consumption in the U.S. has grown from less than 8 million tons to almost three times that much. In addition, he pointed out, the plant food content in mixed fertilizers have increased from less than 20% to about 27%.

"The use of actual nitrogen has increased from an average from less than 1.5 lb. for each acre of land . . . to over 6.5 lb.," he declared. Phosphorus usage likewise has increased from less than 3 lb. an acre to about 6.5 lb. Potash usage has come up from less than 1.5 lb. to over 7 lb. an acre.

"These higher rates of plant food usage, even though still very small," he said, "are more efficiently utilized now than the much smaller amounts were in the beginning of the period. It has been well established that fertilizer when efficiently used pays excellent profits. Since the over-all usage of fertilizer is still far below what is generally recommended by the experiment stations, it would seem fair to assume that the use of this additional plant food has made good money for the farmer. Actually, this is a known fact.

"Though yields per acre is not an irrefutable index of profits, it is usually a very good one. Since 1939 corn yields per acre have increased from 29 to 40, cotton yields from 238 lb. to 416 and wheat yields from 14 to 20 bu. an acre.

"Obviously the soil testing program is only one of a number of factors that have caused the farmer to use more fertilizer, but it is certainly a very important factor in both encouraging the use of more fertilizer and in using it more efficiently.

"Since this is true, a very pertinent question is, What is responsible for the relative success of the soil testing program?" Mr. Miles asked. To answer, he said that supervisors of the soil testing service in the several states over the South were interrogated and their replies assisted very materially in formalizing the conclusions drawn on this matter. The points they listed were as follows:

1. With the results of a good soil test, the supervising agronomist can make more specific lime and fertilizer recommendations for a given crop on a given piece of land than the general recommendations of the experiment station can possibly be.

2. A letter from the soil testing agronomist giving the results of the soil test and the recommendations for the use of lime and fertilizer is much more personal than general published recommendations.

3. Better equipment for testing soils is now available. This equipment is more accurate and more rapid than heretofore.

4. The personnel both in the laboratory and those in charge are better paid, better trained and have more experience than in early days.

5. The successful soil testing agronomist is always enthusiastic about his program and of its value to the farmers.

6. The successful soil testing agronomist is always alert to keeping his methods and procedures, correlated with the research results obtained from field plot tests.

7. The successful soil testing agronomist follows his recommendations in the field to see the success and failure and to find out the reasons for same.

8. The cost of production has increased so much, 2nd, the acreage of cash crops reduced so small, that the farmer must have maximum efficiency in production. He realized that testing his soils was a basic step in a sound fertilization program.

9. Demonstration plots, field test and whole farms have shown over and over that fertilizer recommendations based on a sound soil testing program have greatly increased efficiency in production. This has resulted in giving value, prestige and respect to the program and its leaders. Local leaders have come to see the value of soil testing and consequently have reorganized their work so as to place much greater emphasis on soil testing.

10. Governmental agencies and bankers realizing its value often require a soil test as a basic step in financing and assisting the farmer with his lime and fertilization program.

Mr. Miles declared that in the South, soil testing is a very good tool in the hands of well trained personnel. "It renders its greatest service where there is cooperation, understanding and mutual appreciation among the soil testing agronomist, research, fertilizer industry and local leadership on county and community level," he concluded.

H. J. Mack, research assistant in horticulture, Oregon State College, Corvallis, Oregon, presented a progress report covering the effects of nitrogen rates and stand levels on the yield of sweet corn at different moisture levels.

Data was obtained from a cooperative project involving the departments of soils, agricultural engineering and horticulture of the Oregon Agricultural Experiment Station, he said. The experiments were designed to study the main and interactive effects of three nitrogen fertilizer rates, two stand levels, and four moisture levels on growth and yield of sweet corn in 1954 and 1955.

Unhusked graded yield of sweet corn was increased by stepping up the rate of nitrogen fertilizer (50, 100 and 200 lb. N/acre), with the 100 lb. N per acre rate being considered best. Differences in yield due to nitrogen rates depended upon moisture levels, with nitrogen being more effective at higher moisture levels.

A stand level of 15,000 plants per acre (10-inch spacing in 3.5-ft. rows) resulted in increased yields of sweet corn as compared to a stand level of 7,500 plants per acre (20-inch spacing in 3.5-ft. rows), he pointed out.

"Yield increases due to added nitrogen fertilizer and increased plant population were due primarily to the production of a greater number of ears of sweet corn."

In a paper, "The Effect of Time and Rate of Nitrogen Application on Seed Production of Common Ryegrass," T. L. Jackson, soil conservation specialist, Oregon State College, Corvallis, said that the optimum yield of seed was produced from an application of 120 lb. nitrogen an acre.

Tests had been made during the years 1953, 54 and 55, he said, with nitrogen being applied at different times and at rates varying from zero to 160 lb. an acre.

Applications totaling 80 lb. nitrogen an acre were made in the fall, spring and in fall plus spring, he said. Applying all of the nitrogen in the spring, or 20 lb. nitrogen in the fall, plus 60 lb. nitrogen in the late spring, produced the largest yield of seed, it was reported.

Nitrogen was applied at rates of 0, 40, 80, 120 and 160 lb. an acre, with 20 lb. N an acre being applied in the fall, plus the remainder in the spring.

G. G. Painter, extension soils specialist, University of Idaho, Boise, described the soil testing program of Idaho, and declared that the past thirteen years of progress in this direction has been an aid to county agricultural agents in making recommendations for proper fertilizer additions and for diagnosing other soil problems.

He said that until 1955, most of the soil testing services offered to farmers in the state, was through county laboratories. A program for providing a better soil testing service to farmers was initiated in 1955, the objective being to increase the volume of testing and to give a more complete testing service. The program involves the supplementing of the county laboratory service with that of the University, through the agricultural chemistry department, he said.

Using the unusually dry year of 1955 as an opportunity to make a study of the effect of low moisture on the utilization of nitrogen by winter wheat on summer fallow land, brought interesting results, according to a report by H. D. Jacquot, agronomist of the McGregor Land and Livestock Co., Hooper, Washington.

The best grain yield was obtained by applying the dry fertilizer in the early part of April, the paper said. Maximum yield of 55.1 bu. an acre was obtained from application of 90 lb. actual nitrogen an acre as compared to a yield of 26.8 bu. produced from the control plots.

Mr. Jacquot said that the 1955 crop year was the driest in the Lacrosse area since 1891. Precipitation from Sept. 1, 1954, to July 1, 1955, was only 7.7 in. This was 5.8 in. below the average of a 65-year period.

Of five forms of nitrogen used in the dry year experiments, calcium nitrate produced the highest yield, he said.

Five soils scientists from Oregon State College, Corvallis, were joint authors of a paper reporting the effects of fertilizers on the yield and quality of dryland wheat in the Columbia basin. The five, A. S. Hunter, C. J. Gerard, H. M. Waddoups, L. A. Alban, and H. E. Cushman, reported that fall-applied nitrogen increased yields on 36 out of 48 experimental plots the first year, and in 24 out of 48 the second year, with winter wheat being the crop under test.

However, fall-applied nitrogen on 5 and 13 farms, respectively, showed decreases on the two-year experiments. Spring-applied nitrogen increased yields on 42 of 49 farms the first year and 26 out of 49 the second. Yield decreases resulted on 9 farms during the second year when spring applications were made. It was pointed out that more soil moisture was available during the first year than in the second.

It was pointed out further that data on protein content of the grain indicated that on many farms some nitrogen was needed to raise the protein content of the wheat to desirable levels. The protein content of the grain was increased with increased nitrogen. In general, the protein contents of the grain did not rise to objectionably high levels until the rate of nitrogen application had gone beyond that rate which produced the maximum demonstrable yield increase for the experiment site.

The question of which produces better results, liquid or dry fertilizers, was answered in a paper by W. P. Mortensen, assistant soil scientist and H. A. Kittams, Jr., soil scientist, at Western Washington Experiment Station, Puyallup, Wash.

Results indicated, the men pointed out, that "generally, only small differences in yield can be anticipated between liquid and dry forms of fertilizer when applied in recommended placements. Advantage of either source over the other would be related to convenience of application, rather than to its superiority in terms of increased crop production," the paper declared.

In carrying out the experiments, field tests were conducted with sweet corn, cucumbers and pole beans. Various fertilizer band positions were employed in combination with varying portions of the fertilizer applied with the seed. A constant rate of 50 lb. nitrogen, 100 lb. phosphoric acid and 50 lb. potash an acre was applied in all treatments, it was explained.

V. C. Bushnell, supervisor, regional laboratory unit, U.S. Department of Interior, Bureau of Reclamation, Boise, Idaho, presented a paper entitled "The Effects of Irrigation on Soils as Related to Soil Fertility." He reported that "after 43 years of irrigation near Boise, medium-textured soils with heavy-textured subsoils, and 'slick spots' are much higher in organic matter than adjacent similar but unirrigated soils. Similar soils with medium-textured subsoils were initially higher in organic matter which has not increased significantly with irrigation. On Brewster Flat in north central Washington, irrigation and orchard culture on sandy loam soils greatly increased the organic matter, cation exchange capacity, and the available moisture holding capacity," he said.

"In southwestern Idaho and north central Washington, there is no statistically significant evidence that salt or alkali accumulates or decreases in normal well drained, irrigated soils. 'Slick spots' under irrigation are slowly reclaimed from salt and alkali, accompanied by very little improvement in physical properties, crop adaptability, or productivity. Near Boise, a decrease in exchangeable potassium and magnesium appears to have occurred, indicating a possible fertilizer requirement for some crops in the near future, and perhaps even now.

"Alkali soils, high in both exchangeable sodium and exchangeable potassium, can be leached if adequate water and internal drainage is available. Invariably, the sodium moves out rather rapidly, whereas the potassium moves very slowly. Areas where the soils are high in exchangeable potassium almost invariably develop into high quality fruit areas if the climate is favorable, or forage crop areas if the climate is not suitable for fruit, or if the water supply is limited," the paper concluded.

Oregon, Washington Students Win Scholarships

PORTLAND, ORE. — One student each from the soils department of Oregon State College and Washington State College have been given $100 awards for outstanding work by the Pacific Northwest Plant Food Assn. The association made available these awards last winter to these two colleges and the University of Idaho. The latter college has not yet made its selection but will do so in the fall.

Paul Heilman, 25 year old veteran, and a native of Skagit County, Washington was selected as the outstanding junior at Oregon State College and will be presented with his award on completion of his registration as a senior in September.

David Mowat, a native of Hawaii, was selected as the outstanding student in soils at Washington State College. He majored in soils so that he might get a fundamental background in soils as it pertains to sugar plantation work in the Hawaiian Islands.

Both students have been working while in college and have maintained excellent grade averages and have participated in other phases of college life.

OUTPUT DOWN

RICHFIELD, UTAH—Sugar beet production in the Southern half of Utah is expected to be much lower this year because of a water shortage. Farmers ordinarily receive from nine to ten inches of moisture a year but must have 20 inches to grow beets. The defict is usually made up by using irrigation water stored in mountain reservoirs. This last winter snowfall was light, and the spring rains were not up to normal, so there is not enough water to carry the sugar beets to maturity.

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

NAC Assn. Promotes Safety in Special Leaflet

As a positive step in the direction of greater safety to users of agricultural pesticidal products, the National Agricultural Chemicals Assn. has given wide distribution to a small but effective "Safety Code" leaflet small enough that it may be stuffed into envelopes and mailed out with correspondence.

"Today's agricultural chemicals are made to provide a maximum of safety both to growers and to consumers," the copy on the booklet says. "Like all tools, however, care must be used in handling them."

"These simple rules are published by the National Agricultural Chemicals Association in the interest of maximum safety in the use of sprays and dusts for the control of agricultural pests," it concludes.

Here are the "12 Simple Suggestions for Spray and Dust Safety" contained in the booklet:

1. ALWAYS read the label before using sprays or dusts. Note warnings and cautions each time before opening the container.

2. Keep sprays and dusts out of the reach of children, pets and irresponsible people. They should be stored outside of the home and away from food and feed.

3. ALWAYS store sprays and dusts in original containers and keep them tightly closed. NEVER keep them in anything but the original container.

4. NEVER smoke while spraying or dusting.

5. Avoid inhaling sprays or dusts. When directed on the label, wear protective clothing and masks.

6. Do not spill sprays or dusts on the skin or clothing. If they are spilled, remove contaminated clothing IMMEDIATELY and wash thoroughly.

7. Wash hands and face and change to clean clothing after spraying or dusting. Also wash clothing each day before reuse.

8. Cover food and water containers when treating around livestock or pet areas. Do not contaminate fish ponds.

9. Use separate equipment for applying hormone-type herbicides in order to avoid accidental injury to susceptible plants.

10. ALWAYS dispose of empty containers so that they pose no hazard to humans, animals or valuable plants.

11. Observe label directions and cautions to keep residues on edible portions of plants within the limits permitted by law.

12. If symptoms of illness occur during or shortly after spraying or dusting, call a physician or get the patient to a hospital immediately.

Users reading and heeding these words of wisdom should develop no particular fear of pesticidal materials, but at the same time, the warnings should create a healthy respect on the part of the user. Not a thing is mentioned that should not be done from a common-sense standpoint, but still, human nature being what it is, such an outline of safe use seems to be very appropriate.

The pesticide trade from basic producers on down to the dealer who hands the farmer a container of insecticides, weed killers or fungicides, has a tremendous stake in the safe handling of all its products. The type of safety program being undertaken by the NAC Assn. is both commendable and effective. The entire industry should welcome it.

Nuclear Control of Pests Seen as Real Possibility

The possibility of a mobile railway irradiation facility that could tour the country to demonstrate the treatment of foods and grain with nuclear radiation is foreseen by a University of Michigan engineer who envisions a great many useful applications of nuclear radiation, including certain types of insect control.

Prof. Lloyd L. Brownell, in a recent talk before the annual meeting of the American Nuclear Society, said that the preliminary design of such a mobile unit has been completed, and he is hopeful that the unit can be built by industry or the government and placed in operation within a couple of years.

The professor states that with such a facility, or perhaps with a fleet of them, "we could irradiate crops of potatoes on Long Island to inhibit their sprouting during storage; we could process citrus fruit in the Southwest, curtailing Mexican fruit fly infestation; at ocean ports, we could treat seafoods extending their storage lives; then we could move into the Midwest to sterilize the insects in grain and cereal products that cause an annual loss of $3,000,000,000."

Mr. Brownell added that certain tropical fruits now banned because of possible insect infestation could be made available by irradiation at import centers, and research has shown that the process can break the cycle of trichinosis and other parasitic diseases carried by meat and fish.

A 173-ton unit, costing an estimated $93,400 to build and $114,000 to operate each year, could handle from one half to eleven tons of food an hour, depending on the dosage required, U-M engineers have calculated. The cost per ton would thus range from $2.55 to $40.80.

Professor Brownell proposes to use cooling fuel elements from government nuclear reactors as the radiation source in the first unit. Elements from industrial power reactors could later be used in a fleet of railway cars, he said.

At present, the elements are stored under water until ready for chemical processing; it is the hope of Professor Brownell and his colleagues in the University's engineering research institute that the radioactivity from these elements can be put to work in such facilities as the mobile unit and others they designed.

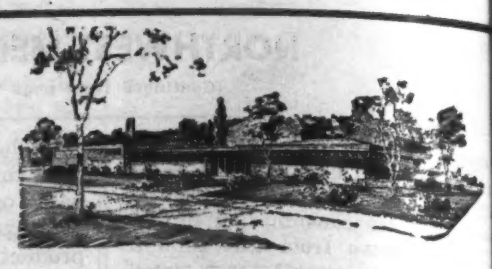
Crops to be irradiated would be loaded on a conveyor belt at one end of the car, the speaker said. The conveyor would carry the food past the fuel elements four times, giving the food an even dosage before returning it to the same end of the car for unloading.

Dosage could be varied by the speed of the conveyor belt, he said.

Although the sterilization of foods by "subradiopasteurization" is one of the most promising applications of Prof. Brownell's idea, the possibility of cutting the loss from insect infestation in grains and cereal products is of more immediate interest to the agricultural chemical trade.

Would such a development reduce greatly the market potential of pesticides now used in this type of work? Would it become a type of agricultural pest control that could be adapted safely to farm use?

Doubtless these and many additional questions will be answered in the light of future experience with atomic energy, but it looks like a number of years may pass before such procedure becomes common. Similar applications of atomic energy are sure to turn up in time, and it will be interesting to watch such developments.



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Scientists Study Decontamination of Radioactive Soil

BERKELEY, CAL. — University of California soil scientists believe they have found a way to decontaminate agricultural soil exposed to waste products of atomic energy plants.

Laboratory tests by Roy Overstreet, professor of soil chemistry, and Robert K. Schulz, assistant specialist in the experiment station, suggest that soil can be rid of radioactivity by adding certain salts and by leaching.

To test their laboratory findings, Mr. Overstreet and Mr. Schulz are contaminating plots of land near Hanford in Kings County and Hopland in Mendocino County using low levels of strontium 90. Strontium 90 is one of the longer-lasting radioactive elements left from nuclear fission.

Later this summer the soil scientists will add various salts and acids. They believe these chemicals will replace the strontium in the root zone or on the surface of the ground, where it is dangerous, and that heavy irrigation afterward will wash the strontium far below the root zone where it can do no harm.

The Hanford and Hopland areas were chosen because they have contrasting climates and soils, said Mr. Overstreet. Rainfall is less than 10 inches a year at Hanford; at Hopland it is about 40 inches. The soil at the Hanford site is light and deep; at Hopland it is heavy and shallow.

Soil contamination by radioactive fission products is a growing problem and will become much more serious, Mr. Overstreet said, as the nation swings over to atomic energy.

FARM EMPLOYMENT DROP

ALBUQUERQUE—The number of people employed in agriculture in New Mexico dropped from 38,377 in 1950 to 34,290 in 1955, according to figures released by the Bureau of Business Research for the New Mexico Economic Development Commission. However, agriculture still ranked second in the state in the number of people employed.

COLORADO FIELD DAY

CRAIG, COL.—July 11 is the date set for a Colorado A&M farmers' and ranchers' field day near here dealing with range management.

FLOWERY WELCOME—You don't have to be a movie star to get a flowery welcome in India. Stephen S. Easter of Velsicol International Corp. is shown above enjoying the "welcome mat" on his arrival recently in Madras, India. Mr. Easter was met by representatives of Gerdau-india of Calcutta and Mysore Insecticide Co. of Madras. Velsicol International Corp. is affiliated with Velsicol Chemical Corp. of Chicago, manufacturers of insecticides, industrial resins, solvents and saturants.

Brush Removal Helps Maintain Water Supply

SAN FRANCISCO — A combined attack by chemicals and burning methods against unwanted brush on potential range land will increase the carrying capacity of a livestock ranch by several times, livestock raisers and sportsmen were told at a recent demonstration by the Agricultural Extension Service of the University of California.

R. Merton Love of the university and Harry Hinkley, Tuolumne County farm advisor, showed how the ranch of F. M. Brunette had increased its carrying capacity of yearling cattle from 25 to 150 after five years on controlled burning and chemical treatment of the brush, followed by "seeding with the best varieties of grass and clovers available," and careful management.

A range tour, sponsored by the Extension Service, took some 150 farmers and sportsmen on a tour of several farms where such experiments have been conducted in both Tuolumne and neighboring Mariposa Counties.

In one case, the brush removal also resulted in keeping a small stream, usually dry during the summer, running the whole year round, thus to become a constant source of water.

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